TOSHIBA

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SERVICE MANUAL

LCD Color Television

27HL85

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⚠ SERVICE SAFETY PRECAUTIONS

- The caution items shown here describe major safety issues and should always be observed.
- The meanings of the various indications are as follows.

⚠ **WARNING**	Indicates a hypothetical situation in which service personnel and nearby third parties, or even end users due to a product defect after the service operation is completed, could possibly be in danger of injury or even death in the event of operational error.
⚠ **CAUTION**	Indicates a hypothetical situation in which service personnel and nearby third parties, or even end users after the service operation is completed, could possibly be in danger of injury, or where there could be physical damage in the event of operational error.

* Physical damage means major damage to a home, furnishings and other possessions.

Examples of marks

SHOCK HAZARD	The △ indicates caution (including danger and warning). The actual meaning of this caution is indicated inside the △ or nearby illustrations or text. The example shown to the left indicates the danger of "electrical shock".
PROHIBIT DISASSEMBLING	The ⃠ indicates a forbidden action. The actual meaning of this caution is indicated inside the ⃠ or nearby illustrations or text. The example shown to the left indicates that disassembly is forbidden.
UNPULUG	The ● indicates a forced action (an action that must be performed). The actual meaning of this forced action is indicated by ● or nearby illustrations or text. The example shown to the left indicates that the power plug must be disconnected.

	⚠ WARNING
KEEP CHILDREN AWAY	• Always advise users to keep children away. There is danger of injury to children from tools, disassembled products, etc.
UNPULUG	• Always disconnect the power plug before starting work whenever power is not required. Failure to disconnect the power plug before starting work can result in electrical shock.
SHOCK HAZARD	• Depending on the model, use an insulation transformer or wear gloves when servicing with the power on, and disconnect the power plug to avoid electrical shock when replacing parts. In some cases, alternating current is also impressed in the chassis, so electrical shock is possible if the chassis is contacted with the power on.
USE SPECIFIED PARTS	• Always use the replacement parts specified for the particular model when making repairs. The parts used in products have the necessary safety characteristics such as inflammability, voltage resistance, etc.; therefore, use only replacement parts that have these same characteristics. Use only the specified parts when the ⚠ mark is included in a circuit diagram or parts list.
CAUTION FOR WIRING	• Parts mounting and routing of the wiring should be the same as that used originally. For safety purposes, insulating materials such as tubing or tape is sometimes used and printed circuit boards are sometimes mounted floating. Also make sure that wiring is routed and clamped to avoid parts that generate heat and which use high voltage. Always follow the original scheme.
CAUTION FOR ASSEMBLING / WIRING	• After a repair has been completed, reassemble all disassembled parts, and route and reconnect the wiring, in accordance with the original scheme. Do not allow internal wiring to be pinched by cabinets, panels, etc. Any error in reassembly or wiring can result in electrical leakage, flame, etc., and may be hazardous.
CHECK INSULATION RESISTANCE	• After completing the work, disconnect the power plug from the outlet, remove the antenna, turn on the power switch. Then, use a 500V insulation resistance meter to check the insulation resistance of the antenna terminal, other metallic parts and between the prongs of the power plug to make sure that the insulation resistance is 1M Ω or more. The set will require inspection and repair if the insulation resistance is below this value.
PROHIBIT REMODELING	• Never remodel the product in any way. Remodeling can result in improper operation, malfunction, or electrical leakage and flame, which may be hazardous

HANDLING THE LCD MODULE

Safety Precautions

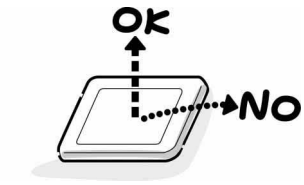
In the event that the screen is damaged or the liquid crystal (fluid) leaks, do not breathe in or drink this fluid. Also, never touch this fluid.

Such actions could cause toxicity or skin irritation. If this fluid should enter the mouth, rinse the mouth thoroughly with water. If the fluid should contact the skin or clothing, wipe off with alcohol, etc., and rinse thoroughly with water. If the fluid should enter the eyes, immediately rinse the eyes thoroughly with running water.

Precautions for Handling the LCD Module

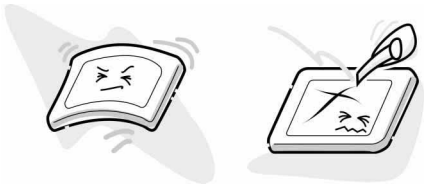
The LCD module can easily be damaged during disassembly or reassembly; therefore, always observe the following precautions when handling the module.

1. When attaching the LCD module to the LCD cover, position it appropriately and fasten at the position where the display can be viewed most conveniently.



2. Carefully align the holes at all four corners of the LCD module with the corresponding holes in the LCD cover and fasten with screws. Do not strongly push on the module because any impact can adversely affect the performance. Also use caution when handling the polarized screen because it can easily be damaged.

CAUTION	The metal edges of the LCD module are sharp, so use caution to avoid injury.

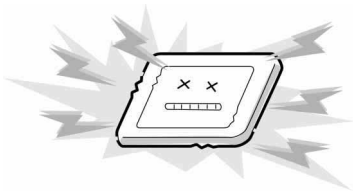


3. If the panel surface becomes soiled, wipe with cotton or a soft cloth. If this does not remove the soiling, breathe on the surface and then wipe again.
   If the panel surface is extremely solied, use a CRT cleaner as a cleaner. Wipe off the panel surface by drop the cleaner on the cloth. Do not drop the cleaner on the panel. Pay attention not to scratch the panel surface.

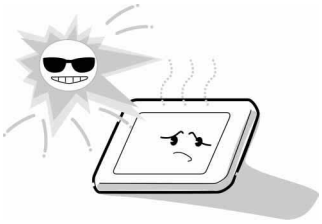
4. Leaving water or other fluids on the panel screen for an extended period of time can result in discoloration or stripes. Immediately remove any type of fluid from the screen.

5. Glass is used in the panel, so do not drop or strike with hard objects. Such actions can damage the panel.

6. CMOS-LSI circuitry is used in the LCD module, so avoid damage due to static electricity. When handling the module, use a wrist ground or anchor ground.

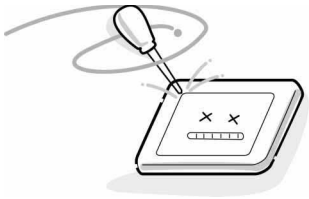


7. Do not expose the LCD module to direct sunlight or strong ultraviolet rays for an extended period of time.

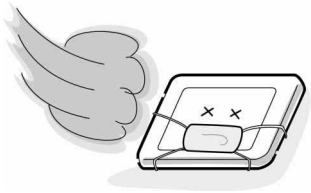


8. Do not store the LCD module below the temperature conditions described in the specifications. Failure to do so could result in freezing of the liquid crystal due to cold air or loss of resilience or other damage.

9. Do not disassemble the LCD module. Such actions could result in improper operation.



10. When transporting the LCD module, do not use packing containing epoxy resin (amine) or silicon resin (alcohol or oxim). The gas generated by these materials can cause loss of polarity.



SERVICE MODE

1. ENTERING SERVICE MODE

1) Press MUTE button twice on Remote Control.

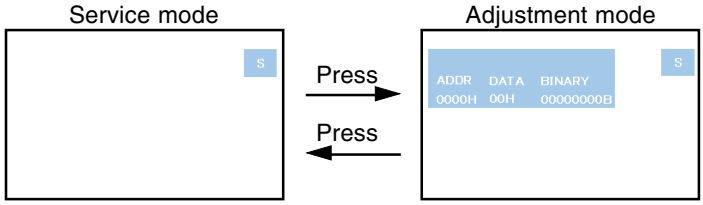
2) Press MUTE button again and keep pressing.

3) While pressing the MUTE button, press MENU button on TV set.

(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on Remote Control.



3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

Test signal selection :	TV/VIDEO button (on Remote)
Selection of the adjustment items :	Channel ▲ / ▼(on TV or Remote)
Change of the data value :	Volume ◀ / ▶ (on TV) or ▲ / ▼ (on Remote)
Adjustment menu mode ON/OFF :	MENU button (on Remote)
Initialization of the memory :	CALL + Channel button on TV (▲)
Reset the count of operating protect circuit to “00” :	CALL + Channel button on TV (▼)
“RCUT” selection :	1 button
“GCUT” selection :	2 button
“BCUT” selection :	3 button
“CNTX” selection :	4 button
“COLC” selection :	5 button ——— Color thickness correction
“UVTT” selection :	6 button
Automatic A/D Adjustment(PC, Component) :	7 button
Self diagnostic display ON/OFF :	9 button

note: Displayed differently as shown below, depending on the setting of the receiving color system.
COLP (PAL)
COLC (NTSC)
COLS (SECAM)

CAUTION : Never try to perform initialization unless you have changed the memory IC.

4. SELECTING THE ADJUSTING ITEMS

1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

5. ADJUSTING THE DATA

1) Pressing of VOLUME ◀ / ▶ , ▲ / ▼ button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

6. EXIT FROM SERVICE MODE

1) Pressing POWER button to turn off the TV once.

■ **INITIALIZATION OF MEMORY DATA**

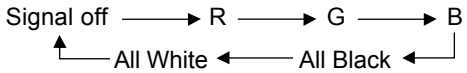
After replacing EEPROM IC, the following initialization is required.

1. Enter the service mode, then select any register item.
2. Press and hold the CALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of EEPROM IC has been completed.
3. Check the picture carefully. If necessary, adjust any adjustment item above. Perform “Auto tune” on the owner’s manual.

CAUTION: Never attempt to initialize the data unless EEPROM IC has been replaced.

7. TEST SIGNAL SELECTION

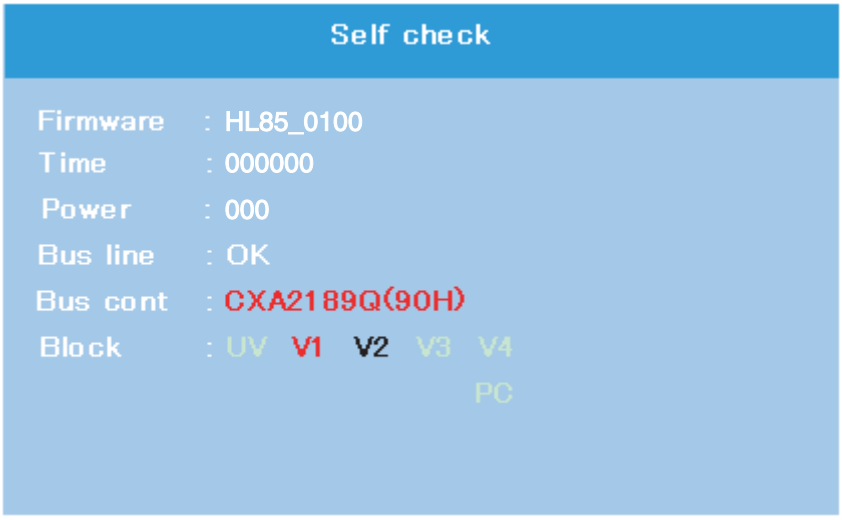
1) Every pressing of ⊕ button on the Remote Control changes the built-in test patterns on screen as described below in SERVICE MODE.



Signals	Picture
• Red raster • Green raster • Blue raster • All Black • All White	

8. SELF DIAGNOSTIC FUNCTION

1) Press “9” button on Remote Control during display of adjustment menu in the service mode.
   The diagnosis will begin to check if interface among IC’s is executed properly.
2) During diagnosis, the following displays are shown.



① Firmware :
Version information of microprocessor
In case of file name : HL85 and Version : 0100 indicates[HL85_0100].

② Time : Total hour of turn the TV on. (Unit : H)

③ Power : Operation number of protecting circuit ----"000" is normal.
When indication is other than "000", overcurrent apt to flow, and circuit parts may possibly be damaged.

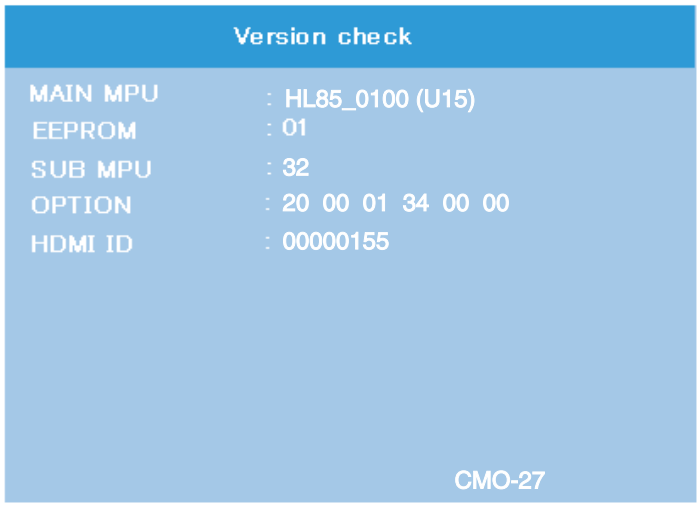
④ Bus line : --"OK" is normal
"SCL-GND"(Red indication) : SCL-GND short circuit
"SDA-GND"(Red indication) : SDA-GND short circuit
"SCL-SDA"(Red indication) : SCL-SDA short circuit

⑤ Bus cont : --- "OK" is normal.
NG is abnormal(Red indication).
When type name of semiconductor indicates.

⑥ Block
UV : TV reception mode
V1 : VIDEO 1 input mode
V2 : VIDEO 2 input mode
V3 : ColorStream HD IN
V4 : HDMI A/V IN

9. VERSION CHECK MODE

1) Press “9” button twice on Remote Control during display of adjustment menu in the service mode. The version of main MPU will begin to check.
2) During Version Check, the following displays are shown.



① MAIN MPU :
Version information of microprocessor
In case of file name : HL85, Version 0100 for Code Program Version and (U15) for OSD Version indicates [HL85_0100(U15)]

② EEPROM :
Version information of EEPROM : Display 1 byte data.

③ SUB MPU :
Version information of SUB MPU : Display 1 byte data.

④ OPTION :
Option information : Display six numbers of 1 byte data.

⑤ HDMI ID :
HDMI ID information : Display 4 byte data.

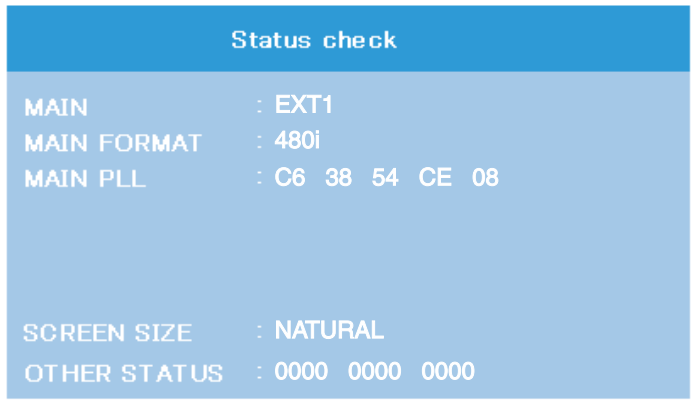
⑥ LCD Panel Vender information display
The following Panel Vender and screen size are displayed.

Panel Vender	Screen Size(Inch)
CMO	-27
SHP	-32

Example : CMO-27 indicates that vender is CMO and Screen Size is 27 inch.

10. STATUS CHECK MODE

1) Press “9” button thrice on Remote Control during display of adjustment menu in the service mode. The status of this model will begin to check.
2) During Status Check, the following displays are shown.



① MAIN :
Main source information :
Display RF position number (0 - 99) on the main screen, or Input Source (EXT1/2/3/HDMI etc.)

② MAIN FORMAT :
Display Video and PC format information

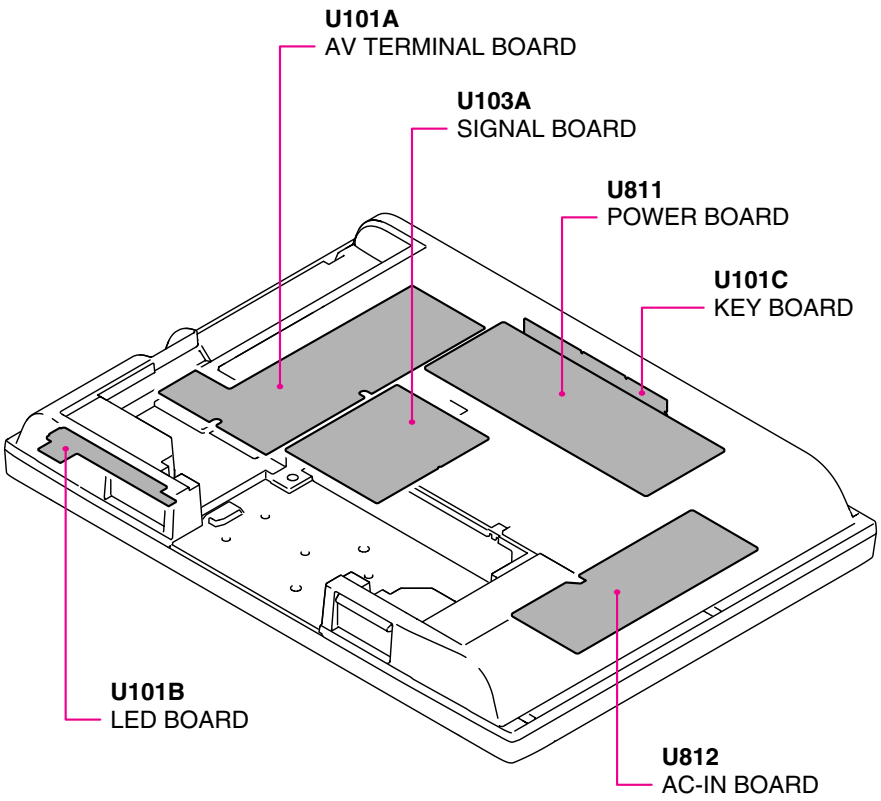
③ MAIN PLL :
Main PLL information : Display 1 byte data at five.

④ SCREEN SIZE :
Display the screen size as follows.

Theater Wide 1
Theater Wide 2
Theater Wide 3
FULL
NATURAL

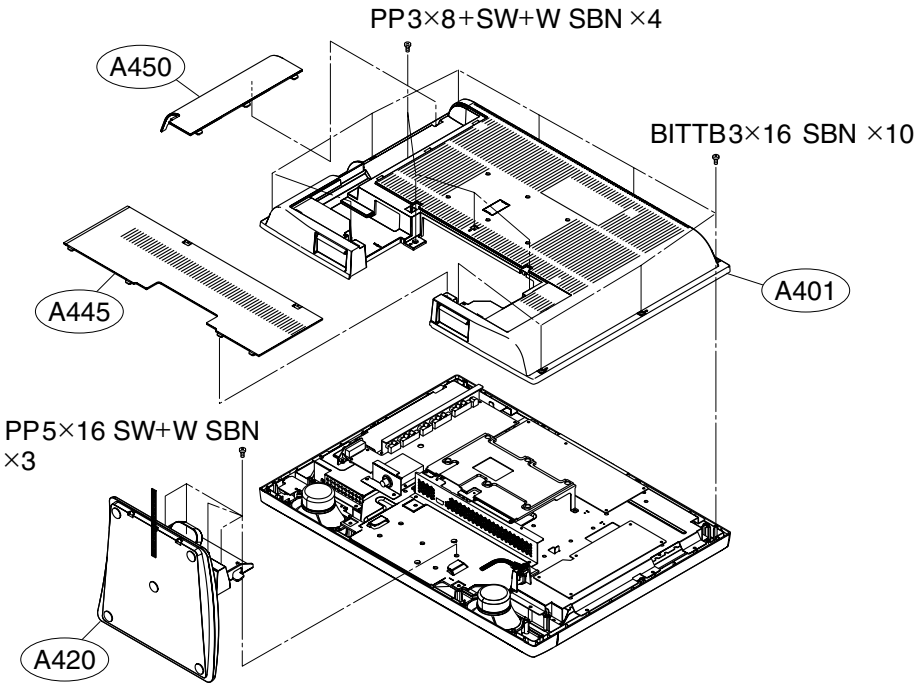
⑤ OTHER STATUS :
Other status information : Display three numbers of 2 byte data.

LAYOUT OF MAJOR BOARDS

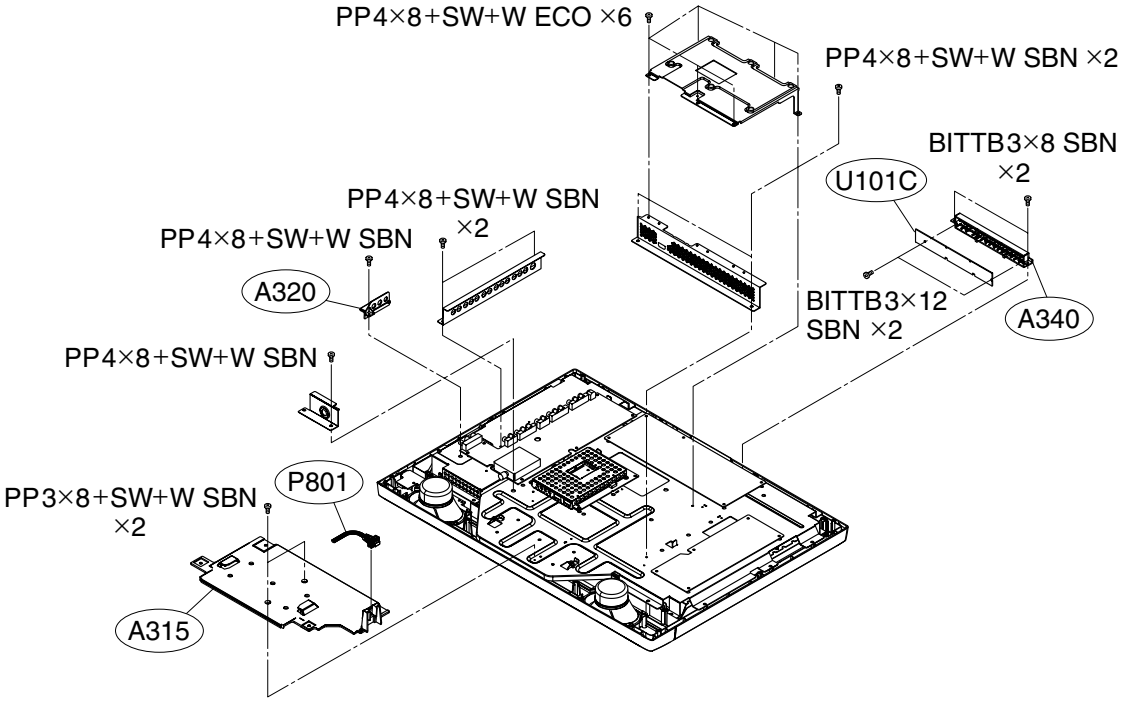


MECHANICAL DISASSEMBLY

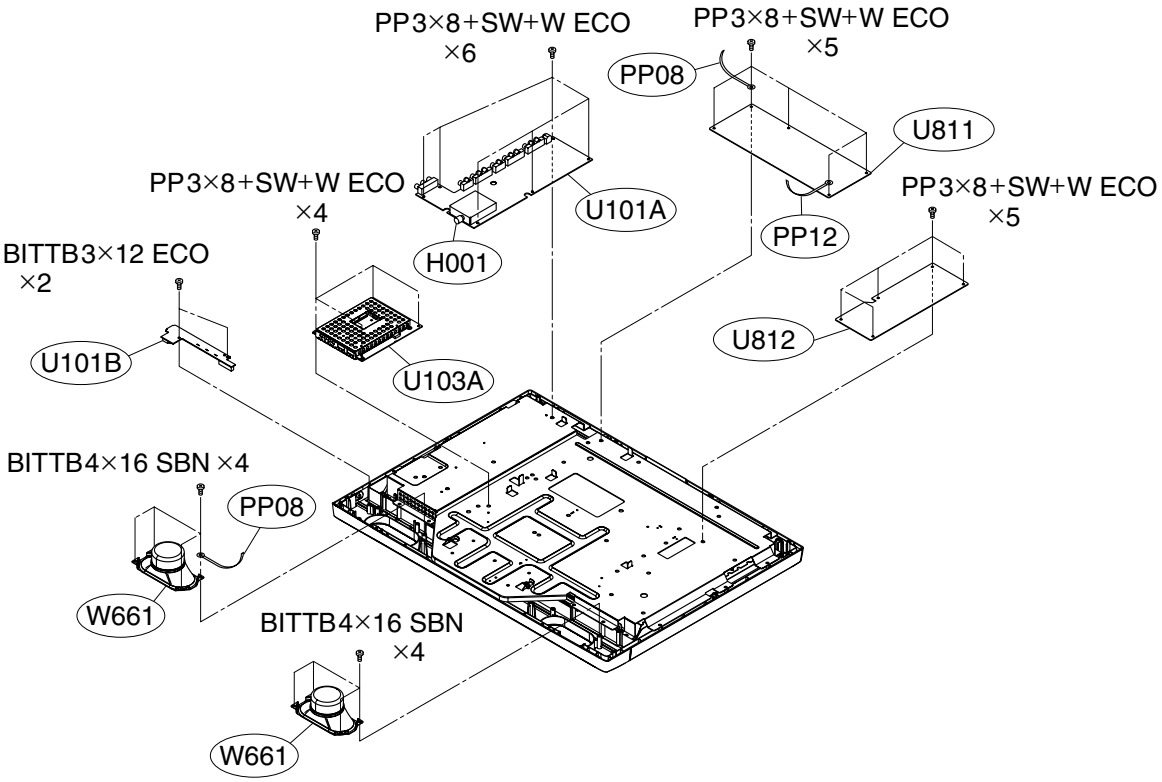
1. Remove the stand (foot) and back cover.



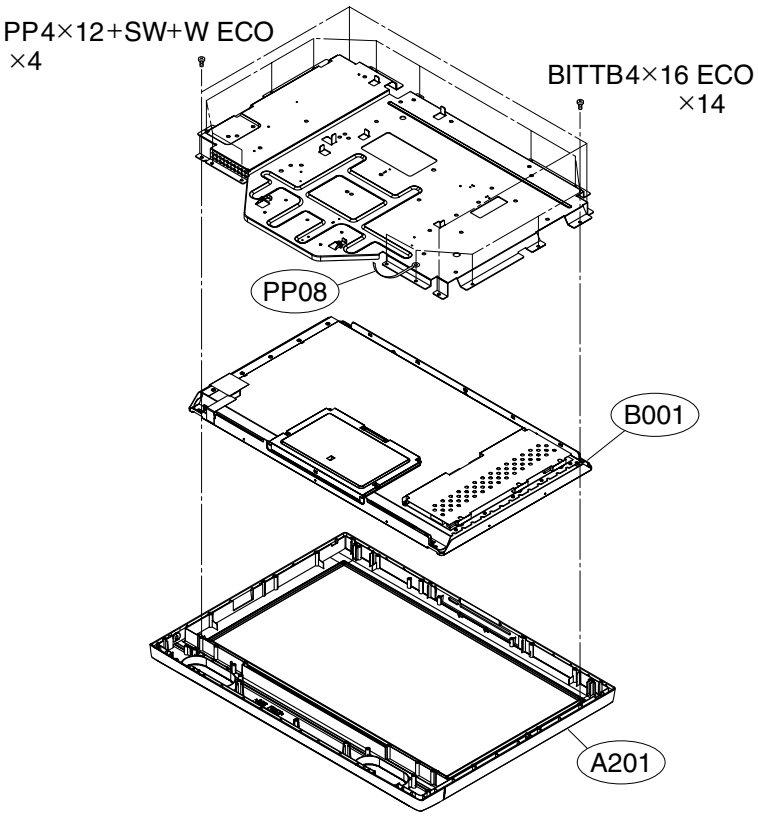
2. Remove the KEY board and piece key ass'y.



3. Remove the boards (POWER, AC-IN, SIGNAL, AV OTHER, LED/RMT) and speaker.

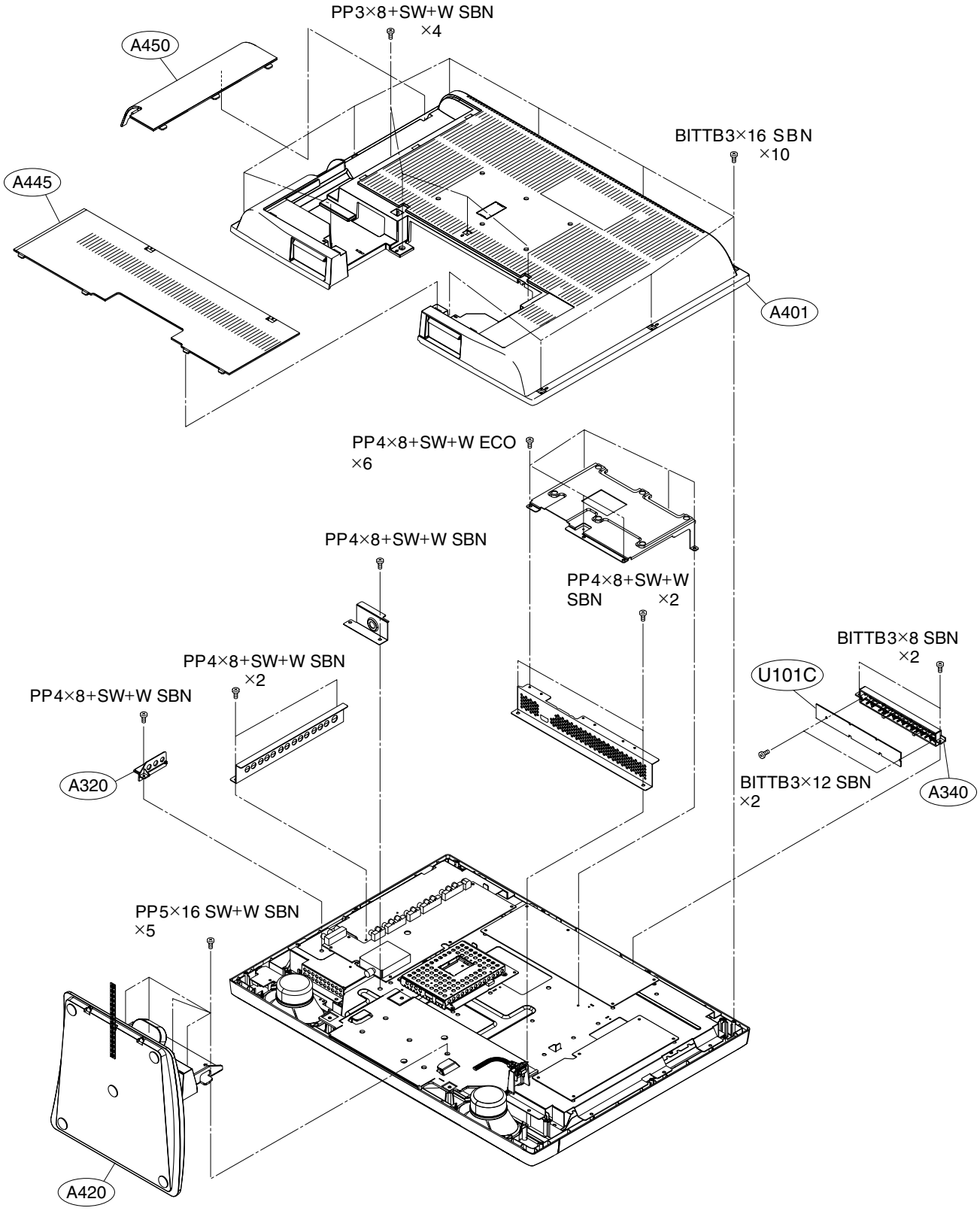


4. Remove the display.

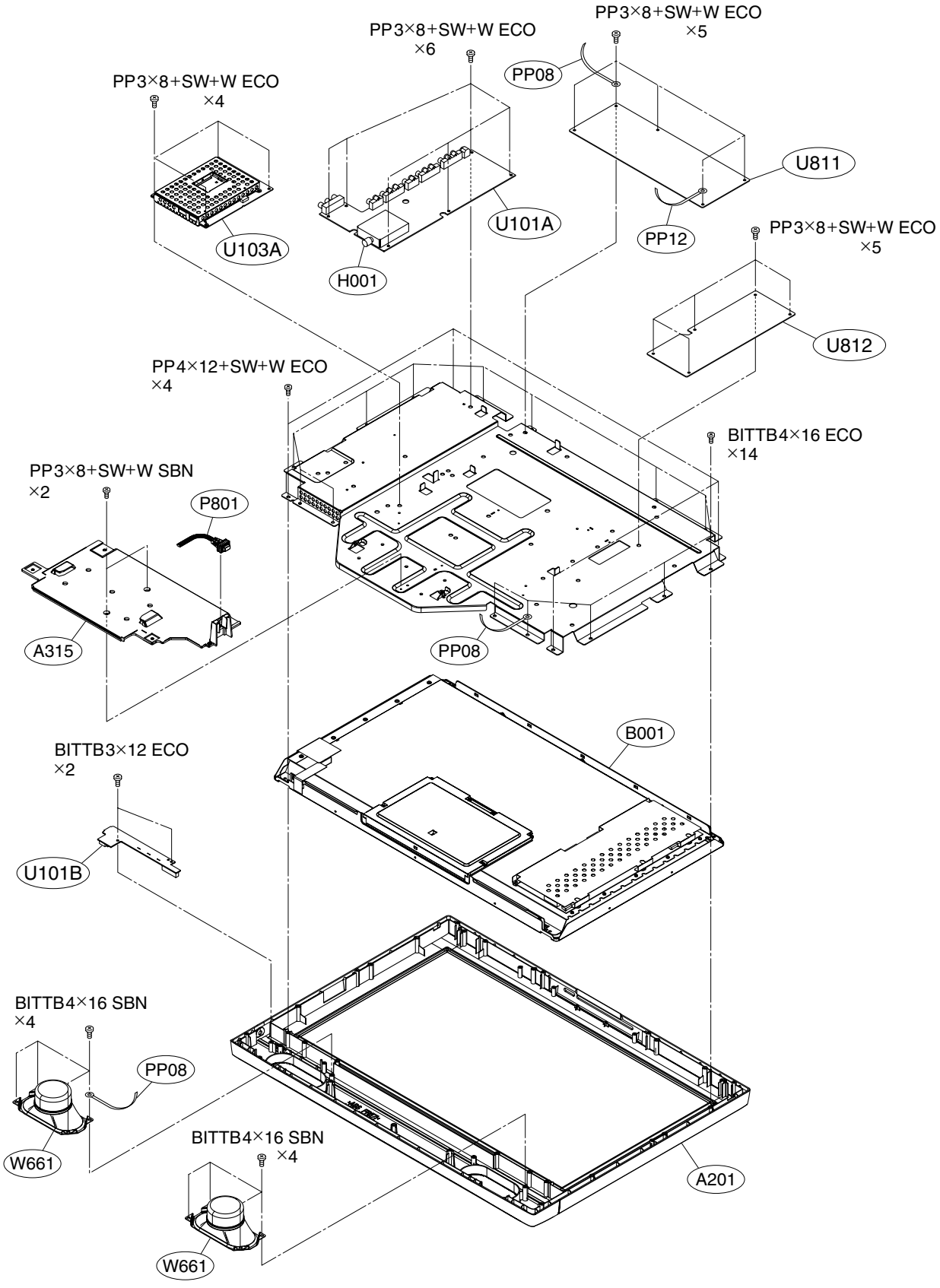


EXPLODED VIEWS

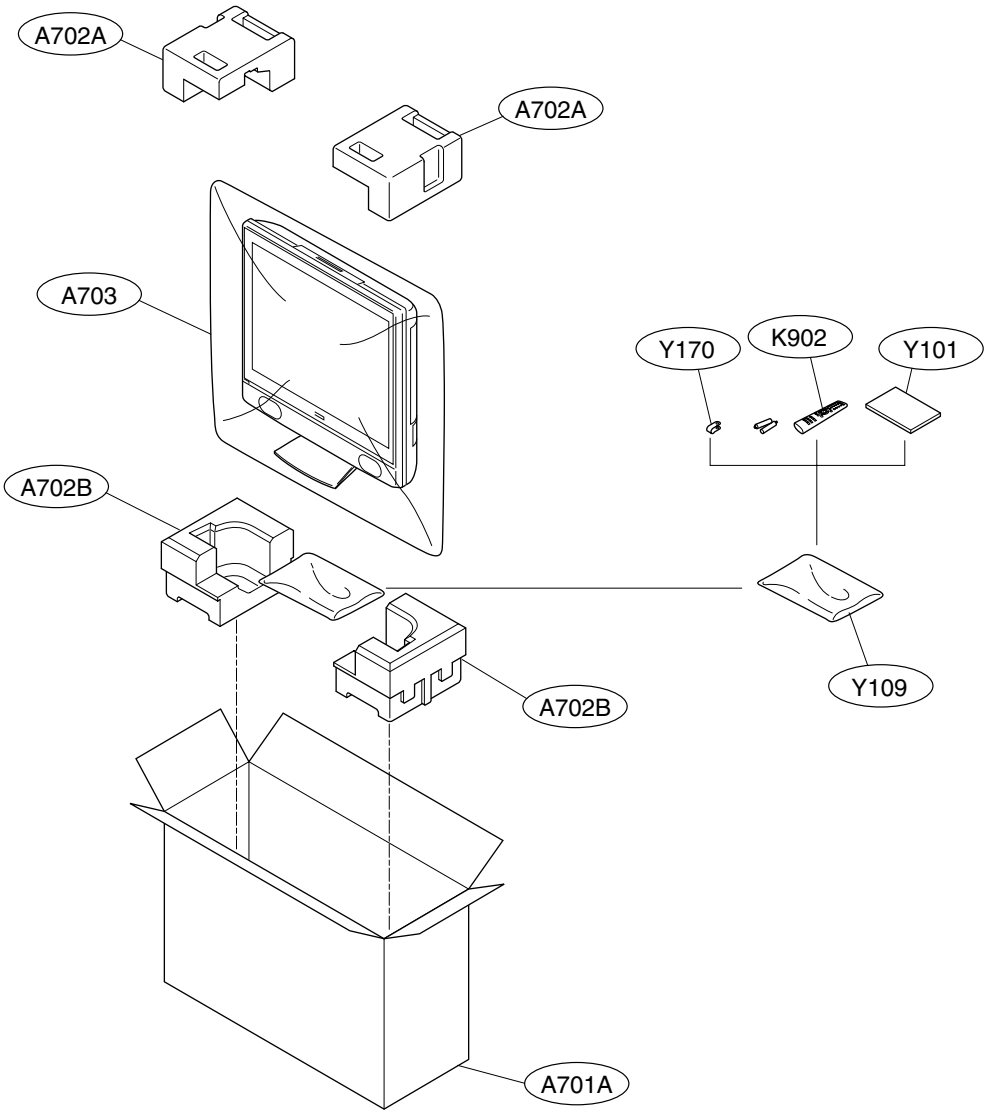
1. Chassis Block



2. Main Block


PP3×8+SW+W ECO
×5
PP3×8+SW+W ECO
×6
PP3×8+SW+W ECO
×4
PP08
U811
U101A
U103A
PP12
H001
PP3×8+SW+W ECO
×5
U812
PP4×12+SW+W ECO
×4
BITTB4×16 ECO
×14
PP3×8+SW+W SBN
×2
P801
A315
PP08
B001
BITTB3×12 ECO
×2
U101B
BITTB4×16 SBN
×4
PP08
W661
BITTB4×16 SBN
×4
A201
W661

PACKING DISASSEMBLY



CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "SERVICE SAFETY PRECAUTIONS" ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the SERVICE SAFETY PRECAUTIONS. Do not degrade the safety of the receiver through improper servicing.

NOTICE:
- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with * mark is no longer available after the end of the production.*

Model : 27HL85

Capacitors	CD	:	Ceramic Disk	PF	:	Plastic Film	EL	: Electrolytic
Resistors	CF	:	Carbon Film	CC	:	Carbon Composition	MF	: Metal Film
	OMF	:	Oxide Metal Film	VR	:	Variable Resistor	FR	: Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Parts No.	Description
CAPACITORS		
C101	76109103	CERAMIC CHIP, 50V B 0.01UF K
C102	76073019	ELECTROLYTIC, 10V 470UF M 3A
C103	76109102	CERAMIC CHIP, 50V B 1000PF K
C104	76073084	ELECTROLYTIC, 50V 4.7UF M 3A
C105	76073019	ELECTROLYTIC, 10V 470UF M 3A
C108	76092730	CERAMIC CHIP, 16V B 0.1UF K
C114	76105100	CERAMIC CHIP, 50V CH 10PF D
C115	76105100	CERAMIC CHIP, 50V CH 10PF D
C121	76105560	CERAMIC CHIP, 50V CH 56PF J
C123	76105470	CERAMIC CHIP, 50V CH 47PF J
C124	76105220	CERAMIC CHIP, 50V CH 22PF J
C161	76109102	CERAMIC CHIP, 50V B 1000PF K
C162	76105101	CERAMIC CHIP, 50V CH 100PF J
C164	76092730	CERAMIC CHIP, 16V B 0.1UF K
C198	76232103	CERAMIC DISC, 50V F 0.01UF Z
C199	76232103	CERAMIC DISC, 50V F 0.01UF Z
C656	76797100	ELECTROLYTIC, 50V 10UF M
C660	76669479	ELECTROLYTIC, 50V 4.7UF M
C661	76669479	ELECTROLYTIC, 50V 4.7UF M
C662	76109681	CERAMIC CHIP, 50V B 680PF K
C663	76109681	CERAMIC CHIP, 50V B 680PF K
C670	76669100	ELECTROLYTIC, 50V 10UF M
C671	76669100	ELECTROLYTIC, 50V 10UF M
C673	76667470	ELECTROLYTIC, 25V 47UF M 3A
C674	76073081	ELECTROLYTIC, 50V 1UF M 3A
C675	76669339	ELECTROLYTIC, 50V 3.3UF M
C676	76796101	ELECTROLYTIC, 35V 100UF M
C677	76797100	ELECTROLYTIC, 50V 10UF M
C678	76503041	PLASTIC FILM , 63V 0.1UF J
C679	76503041	PLASTIC FILM , 63V 0.1UF J
C680	76073072	ELECTROLYTIC, 35V 1000UF M 3A
C681	76073072	ELECTROLYTIC, 35V 1000UF M 3A
C682	76073072	ELECTROLYTIC, 35V 1000UF M 3A
C684	76109103	CERAMIC CHIP, 50V B 0.01UF K
C685	76109103	CERAMIC CHIP, 50V B 0.01UF K
⚠ C801	76503507	PLASTIC FILM, AC275V 0.22UF K
C802	76503507	PLASTIC FILM, AC275V 0.22UF K
⚠ C803	76503250	PLASTIC FILM 7E2G224J-SC
C804	76214103	CERAMIC DISC, 500V B 0.01UF K
C805	76092281	CERAMIC DISC, AC250V E 4700PF

Location No.	Parts No.	Description
C806	76092281	CERAMIC DISC, AC250V E 4700PF
C810	76073233	ELECTROLYTIC, 200V 560UF M
⚠ C811	76092569	CERAMIC DISC, AC250V E 2200PF M
C812	76092569	CERAMIC DISC, AC250V E 2200PF M
C813	76503047	PLASTIC FILM, 63V 0.33UF J
C815	76503049	PLASTIC FILM, 63V 0.47UF J
C816	76073183	ELECTROLYTIC CE04P 35V 220UF M 3A
C817	76567224	PLASTIC FILM, 50V 0.22UF J
C819	76214101	CERAMIC DISC, 500V B 100PF K
C820	76567224	PLASTIC FILM, 50V 0.22UF J
C821	76092343	CERAMIC DISC, 2KV 680PF K
C822	76092344	CERAMIC DISC, 2KV 820PF K
C823	76092341	CERAMIC DISC, 2KV R 470PF K
C824	76591102	PLASTIC FILM, 50V 1000PF J
C825	76503053	PLASTIC FILM, 63V 1UF J
C826	76092341	CERAMIC DISC, 2KV R 470PF K
C827	76678229	ELECTROLYTIC, 200V 2.2UF M 3A
C851	76092538	CERAMIC CHIP, 10V F 1UF Z
C852	76109102	CERAMIC CHIP, 50V B 1000PF K
C883	76073193	ELECTROLYTIC, 35V 2200UF M 3A
C884	76073193	ELECTROLYTIC, 35V 2200UF M 3A
C888	76212102	CERAMIC DISC, 50V B 1000PF K
C889	76073094	ELECTROLYTIC, 50V 1000UF M 3A
C890	76503047	PLASTIC FILM, 63V 0.33UF J
C6600	76797470	ELECTROLYTIC, 50V 47UF M
C6601	76085944	ELECTROLYTIC, NP, 50V 2.2UF M 11L
C6602	76085944	ELECTROLYTIC, NP, 50V 2.2UF M 11L
C6603	76797229	ELECTROLYTIC, 50V 2.2UF M
C6604	76797229	ELECTROLYTIC, 50V 2.2UF M
C6606	76797229	ELECTROLYTIC, 50V 2.2UF M
C6607	76797229	ELECTROLYTIC, 50V 2.2UF M
C6615	76797100	ELECTROLYTIC, 50V 10UF M
C6990	76206478	ELECTROLYTIC, 50V 0.47UF M 7L 3A
C8001	76073072	ELECTROLYTIC, 35V 1000UF M 3A
C8110	76073233	ELECTROLYTIC, 200V 560UF M
CB01	76202221	ELECTROLYTIC, 10V 220UF M 7L 3A
CB02	76202221	ELECTROLYTIC, 10V 220UF M 7L 3A
CB03	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CB04	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CB05	76202221	ELECTROLYTIC, 10V 220UF M 7L 3A
CB38	76100104	CERAMIC CHIP, 25V F 0.1UF Z

Location No.	Parts No.	Description
CE04	76092281	CERAMIC DISC, AC250V E 4700PF
CE05	76092281	CERAMIC DISC, AC250V E 4700PF
CE07	76503049	PLASTIC FILM, 63V 0.47UF J
CE09	76668339	ELECTROLYTIC, 35V 3.3UF M 3A
CE10	76073217	ELECTROLYTIC, 200V 560UF M
CE12	76503041	PLASTIC FILM , 63V 0.1UF J
⚠ CE13	76092561	CERA CAP B 250V 101 CD70-B2GA101KYNS
CE14	76092561	CERA CAP B 250V 101 CD70-B2GA101KYNS
CE16	76073181	ELECTROLYTIC CE04P 35V 56UF M 3A
CE17	76092339	CERAMIC DISC, 2KV 330PF K
⚠ CE18	76503253	PLASTIC FILM, 1250VH 0.01UF H
CE23	76214471	CERAMIC DISC, 500V B 470PF K
CE24	76285104	CERAMIC CHIP, 50V B 0.1UF K
CE29	76436561	CERAMIC DISC, 50V SL 560PF J
CE40	76073183	ELECTROLYTIC CE04P 35V 220UF M 3A
CE42	76539104	PLASTIC FILM, 50V 0.1UF J
CE43	76503041	PLASTIC FILM , 63V 0.1UF J
CE51	76617023	ELECTROLYTIC, 16V 330UF M
CE52	76092179	CERAMIC CHIP, 25V B 0.22UF K
CE53	76092179	CERAMIC CHIP, 25V B 0.22UF K
CE55	76073181	ELECTROLYTIC CE04P 35V 56UF M 3A
CE76	76073181	ELECTROLYTIC CE04P 35V 56UF M 3A
CE82	76676470	ELECTROLYTIC, 100V 47UF M 3A
CE85	76073186	ELECTROLYTIC CE04P 35V 470UF M 3A
CE87	76669100	ELECTROLYTIC, 50V 10UF M
CE90	76503047	PLASTIC FILM, 63V 0.33UF J
CE91	76503041	PLASTIC FILM , 63V 0.1UF J
CE92	76794101	ELECTROLYTIC, 16V 100UF M
CV10	76109102	CERAMIC CHIP, 50V B 1000PF K
CV68	76797010	ELECTROLYTIC, 50V 1UF M
CV72	76794471	ELECTROLYTIC, 16V 470UF M
CV74	76794101	ELECTROLYTIC, 16V 100UF M
CV76	76100104	CERAMIC CHIP, 25V F 0.1UF Z
CV78	76797010	ELECTROLYTIC, 50V 1UF M

RESISTORS

R103	76011101	CHIP, 1/20W 100 OHM J
R104	76011103	CHIP, 1/20W 10K OHM J
R105	76011273	CHIP, 1/20W 27K OHM J
R107	76000445	CHIP JUMPER, 1608TYPE
R108	76000445	CHIP JUMPER, 1608TYPE
R110	76011682	CHIP, 1/20W 6.8K OHM J
R111	76011681	CHIP, 1/20W 680 OHM J
R113	76000445	CHIP JUMPER, 1608TYPE
R114	76000445	CHIP JUMPER, 1608TYPE
R115	76011102	CHIP, 1/20W 1K OHM J
R120	76011821	CHIP, 1/20W 820 OHM J
R122	76000445	CHIP JUMPER, 1608TYPE
R161	76011102	CHIP, 1/20W 1K OHM J
R165	76011392	CHIP, 1/20W 3.9K OHM J
R166	76011472	CHIP, 1/20W 4.7K OHM J
R167	76011101	CHIP, 1/20W 100 OHM J
R168	76011101	CHIP, 1/20W 100 OHM J
R657	76011473	CHIP, 1/20W 47K OHM J
R658	76011473	CHIP, 1/20W 47K OHM J
R659	76011103	CHIP, 1/20W 10K OHM J
R670	76011472	CHIP, 1/20W 4.7K OHM J
R671	76011472	CHIP, 1/20W 4.7K OHM J
R672	76011182	CHIP, 1/20W 1.8K OHM J
R673	76011182	CHIP, 1/20W 1.8K OHM J
R678	76871229	CHIP, 1/8W 2.2 OHM J
R679	76871229	CHIP, 1/8W 2.2 OHM J
R680	76011103	CHIP, 1/20W 10K OHM J
R681	76011103	CHIP, 1/20W 10K OHM J
R682	76011104	CHIP, 1/20W 100K OHM J
R683	76011223	CHIP, 1/20W 22K OHM J

Location No.	Parts No.	Description
R684	76011104	CHIP, 1/20W 100K OHM J
R685	76011183	CHIP, 1/20W 18K OHM J
R686	76011102	CHIP, 1/20W 1K OHM J
R688	76552331	OXIDE METAL FILM, 1/2W 330 OHM J
R693	76552331	OXIDE METAL FILM, 1/2W 330 OHM J
⚠ R801	76004716	METAL GLAZE, 1/2W 2.2M OHM J
R803	76366182	CARBON FILM, 1/6W 1.8K OHM J
R805	76366102	CARBON FILM, 1/6W 1K OHM J
R806	76552470	OXIDE METAL FILM, 1/2W 47 OHM J
R807	76366153	CARBON FILM, 1/6W 15K OHM J
R808	76552101	OXIDE METAL FILM, 1/2W 100 OHM J
R809	76321689	OXIDE METAL FILM, 1/2W 6.8 OHM J
R812	76552681	OXIDE METAL FILM, 1/2W 680 OHM J
R813	76366120	CARBON FILM, 1/6W 12 OHM J
R814	76552330	OXIDE METAL FILM, 1/2W 33 OHM J
R815	76552100	OXIDE METAL FILM, 1/2W 10 OHM J
R816	76011681	CHIP, 1/20W 680 OHM J
R817	76382823	OXIDE FILM 1W 82K J
R821	76382680	OXIDE METAL FILM, 1W 68 OHM J
R827	76383103	OXIDE METAL FILM, 2W 10K OHM J
R850	76011101	CHIP, 1/20W 100 OHM J
R851	76011102	CHIP, 1/20W 1K OHM J
R852	76011471	CHIP, 1/20W 470 OHM J
R853	76011103	CHIP, 1/20W 10K OHM J
R854	76011102	CHIP, 1/20W 1K OHM J
R855	76011471	CHIP, 1/20W 470 OHM J
R856	76011102	CHIP, 1/20W 1K OHM J
R857	76011471	CHIP, 1/20W 470 OHM J
R858	76011471	CHIP, 1/20W 470 OHM J
R859	76011102	CHIP, 1/20W 1K OHM J
R861	76007416	CERAMIC COVERED, 5W 82 OHM J
R862	76120002	CERAMIC COVERED G 5W 68 J
R873	76366152	CARBON FILM, 1/6W 1.5K OHM J
R890	76011102	CHIP, 1/20W 1K OHM J
⚠ R899	76004718	METAL GLAZE, 1/2W 8.2M OHM J
R6601	76011223	CHIP, 1/20W 22K OHM J
R6602	76011103	CHIP, 1/20W 10K OHM J
R6603	76011104	CHIP, 1/20W 100K OHM J
R6604	76011102	CHIP, 1/20W 1K OHM J
R6614	76011102	CHIP, 1/20W 1K OHM J
R6615	76011102	CHIP, 1/20W 1K OHM J
R6616	76011104	CHIP, 1/20W 100K OHM J
R6617	76011104	CHIP, 1/20W 100K OHM J
R6620	76011100	CHIP, 1/20W 10 OHM J
R6622	76011100	CHIP, 1/20W 10 OHM J
R6623	76011100	CHIP, 1/20W 10 OHM J
R6624	76011100	CHIP, 1/20W 10 OHM J
R6625	76011473	CHIP, 1/20W 47K OHM J
R6626	76011473	CHIP, 1/20W 47K OHM J
R6627	76011473	CHIP, 1/20W 47K OHM J
R6628	76011473	CHIP, 1/20W 47K OHM J
R6629	76011103	CHIP, 1/20W 10K OHM J
R6630	76011103	CHIP, 1/20W 10K OHM J
R6633	76011100	CHIP, 1/20W 10 OHM J
R6634	76011100	CHIP, 1/20W 10 OHM J
R6635	76011473	CHIP, 1/20W 47K OHM J
R6636	76011473	CHIP, 1/20W 47K OHM J
R6638	76011473	CHIP, 1/20W 47K OHM J
R6639	76011473	CHIP, 1/20W 47K OHM J
R6655	76011103	CHIP, 1/20W 10K OHM J
R6656	76011103	CHIP, 1/20W 10K OHM J
R6657	76011103	CHIP, 1/20W 10K OHM J
RA71	76011683	CHIP, 1/20W 68K OHM J
RA72	76011223	CHIP, 1/20W 22K OHM J
RA73	76011103	CHIP, 1/20W 10K OHM J
RA74	76000445	CHIP JUMPER, 1608TYPE

Location No.	Parts No.	Description
RA77	76011103	CHIP, 1/20W 10K OHM J
RA78	76000445	CHIP JUMPER, 1608TYPE
RA79	76000445	CHIP JUMPER, 1608TYPE
RB08	76011470	CHIP, 1/20W 47 OHM J
RB09	76011470	CHIP, 1/20W 47 OHM J
RB15	76011471	CHIP, 1/20W 470 OHM J
RB24	76000445	CHIP JUMPER, 1608TYPE
RE03	76553683	OXIDE METAL FILM, 1W 68K OHM J
RE04	76553683	OXIDE METAL FILM, 1W 68K OHM J
RE05	76554683	OXIDE RES 2W 68K J
RE12	76552221	OXIDE METAL FILM, 1/2W 220 OHM J
RE13	76366473	CARBON FILM, 1/6W 47K OHM J
RE15	76366102	CARBON FILM, 1/6W 1K OHM J
RE16	76366102	CARBON FILM, 1/6W 1K OHM J
RE17	76366363	CARBON FILM, 1/6W 36K OHM J
RE18	76019463	METAL PLATE, 2W 0.22 OHM J
RE19	76310829	OXIDE METAL FILM, 1/2W 8.2 OHM J
RE23	76552152	OXIDE METAL FILM, 1/2W 1.5K OHM J
RE41	76011152	CHIP, 1/20W 1.5K OHM J
RE42	76871222	CHIP, 1/8W 2.2K OHM J
RE43	76011753	CHIP, 1/20W 75K OHM J
RE44	76000593	METAL FILM CHIP 1/16W 10K F
RE46	76000448	CHIP, 1/16W 1.8K OHM F
RE48	76011222	CHIP, 1/20W 2.2K OHM J
RE51	76011393	CHIP, 1/20W 39K OHM J
RE52	76011152	CHIP, 1/20W 1.5K OHM J
RE53	76871222	CHIP, 1/8W 2.2K OHM J
RE54	76871222	CHIP, 1/8W 2.2K OHM J
RE56	76190012	METAL FILM CHIP 1/16W 1.5K F
RE57	76190012	METAL FILM CHIP 1/16W 1.5K F
RE58	76190013	CHIP RES 1/16W 22K F
RE59	76011334	CHIP, 1/20W 330K OHM J
RE60	76011473	CHIP, 1/20W 47K OHM J
RE61	76190014	METAL FILM CHIP 1/16W 18K F
RE82	76011473	CHIP, 1/20W 47K OHM J
RE83	76011473	CHIP, 1/20W 47K OHM J
RE84	76011152	CHIP, 1/20W 1.5K OHM J
RE87	76011473	CHIP, 1/20W 47K OHM J
RE88	76011103	CHIP, 1/20W 10K OHM J
RE91	76011103	CHIP, 1/20W 10K OHM J
RE93	76011223	CHIP, 1/20W 22K OHM J
RE94	76871271	CHIP, 1/8W 270 OHM J
RE95	76553122	OXIDE METAL FILM, 1W 1.2K OHM J
RE96	76011473	CHIP, 1/20W 47K OHM J
RE97	76553681	0XIDE RES 1W 68 J
RE98	76011104	CHIP, 1/20W 100K OHM J
RV07	76011750	CHIP, 1/20W 75 OHM J
RV18	76011750	CHIP, 1/20W 75 OHM J
RV19	76011750	CHIP, 1/20W 75 OHM J
RV20	76000445	CHIP JUMPER, 1608TYPE
RV21	76011750	CHIP, 1/20W 75 OHM J
RV22	76000445	CHIP JUMPER, 1608TYPE
RV23	76000445	CHIP JUMPER, 1608TYPE
RV25	76011750	CHIP, 1/20W 75 OHM J
RV26	76011750	CHIP, 1/20W 75 OHM J
RV27	76011750	CHIP, 1/20W 75 OHM J
RV39	76000445	CHIP JUMPER, 1608TYPE
RV40	76000445	CHIP JUMPER, 1608TYPE
RV41	76000445	CHIP JUMPER, 1608TYPE
RV42	76000445	CHIP JUMPER, 1608TYPE
RV43	76000445	CHIP JUMPER, 1608TYPE
RV44	76000445	CHIP JUMPER, 1608TYPE
RV76	76011750	CHIP, 1/20W 75 OHM J
RV79	76000445	CHIP JUMPER, 1608TYPE
RV82	76011822	CHIP, 1/20W 8.2K OHM J

Location No.	Parts No.	Description
COIL & TRANSFORMERS		
L101	23248398	COIL, CHOKE, TLN3278D
L102	23103828	INDUCTOR, BEAD, TEM2121M
L103	23103828	INDUCTOR, BEAD, TEM2121M
L122	23246654	COIL, CHIP, TRF4220CG
⚠ L801	23217782	TRANSFORMER, CHOKE 8.1MH 3.0A TPW2067AS
⚠ L802	23217783	TRANSFORMER, CHOKE 3.05MH 3.0A TPW2068AS
L805	23103302	FERRITE CHOKE, TEM2011AH
L806	23248417	COIL, CHOKE, TLN3481AH
L807	23248417	COIL, CHOKE, TLN3481AH
L874	23103302	FERRITE CHOKE, TEM2011AH
L875	23103302	FERRITE CHOKE, TEM2011AH
L876	23103302	FERRITE CHOKE, TEM2011AH
L878	23103302	FERRITE CHOKE, TEM2011AH
L883	23248466	COIL, CHOKE COIL 4.7MMH 8.0A TLN3551AH
L888	23248432	COIL, CHOKE, TLN3499AH
L921	75001248	CHIP BEADS INDUCTOR
L922	75001248	CHIP BEADS INDUCTOR
L923	75001248	CHIP BEADS INDUCTOR
L925	75001248	CHIP BEADS INDUCTOR
L926	75001248	CHIP BEADS INDUCTOR
L930	75001248	CHIP BEADS INDUCTOR
L931	75001248	CHIP BEADS INDUCTOR
L932	75001248	CHIP BEADS INDUCTOR
L933	75001248	CHIP BEADS INDUCTOR
L934	75001248	CHIP BEADS INDUCTOR
L935	75001248	CHIP BEADS INDUCTOR
L936	75001248	CHIP BEADS INDUCTOR
L943	75001248	CHIP BEADS INDUCTOR
LE11	23103302	FERRITE CHOKE, TEM2011AH
LE52	23289025	COIL, PEAKING, TRF4330AT
LE53	23248399	COIL, CHOKE, TLN3283D
LE73	23248417	COIL, CHOKE, TLN3481AH
LE74	23248417	COIL, CHOKE, TLN3481AH
⚠ T801	23211881	COIL,LINEFILTER34X25.5H13MHTRF3252AD
T802	23211881	COIL,LINEFILTER34X25.5H13MHTRF3252AD
⚠ T862	23217804	TRANSFORMER,CONVERTERTPW3562BS
⚠ TE62	23217805	TRANSFORMER,CONVERTERTPW3563BS
SEMICONDUCTORS		
Q101	23205506	TRANSISTOR, 2SC4081 Q
Q102	23205507	TRANSISTOR, 2SA1576A Q
Q161	23205506	TRANSISTOR, 2SC4081 Q
Q651	23205325	TRANSISTOR,RN2404(F)
Q652	23205302	TRANSISTOR,2SC3326-B(F)
Q653	23205302	TRANSISTOR,2SC3326-B(F)
Q662	23205325	TRANSISTOR,RN2404(F)
Q663	23205506	TRANSISTOR, 2SC4081 Q
Q664	23205506	TRANSISTOR, 2SC4081 Q
Q665	23205506	TRANSISTOR, 2SC4081 Q
Q670	23085039	IC, TA8246AHQ
Q671	23205302	TRANSISTOR,2SC3326-B(F)
Q672	23205302	TRANSISTOR,2SC3326-B(F)
Q673	23205443	TRANSISTOR,2SA1162-Y(F)
Q801	23135087	IC, HYBRID VDS=200V STR-Z4317
⚠ Q826	23000823	IC, PHOTO COUPLER, TLP421F(GR)
Q851	23205446	TRANSISTOR, 2SC2412K, Q T146
Q852	23205446	TRANSISTOR, 2SC2412K, Q T146
Q853	23205443	TRANSISTOR,2SA1162-Y(F)
Q854	23205446	TRANSISTOR, 2SC2412K, Q T146
Q855	23205446	TRANSISTOR, 2SC2412K, Q T146
Q883	23135091	IC, ERROR AMP. VS=24.0V SE024N
Q6600	23318977	IC, MC14052BF
Q6603	23205329	TRANSISTOR,RN1404(F)
Q6604	23205329	TRANSISTOR,RN1404(F)
QB07	23205463	TRANSISTOR,2SC2712-Y(TE85L,F)

Location No.	Parts No.	Description
QE01	23135089	IC, HYBRID 650V STR-W6756
QE26	23000823	IC, PHOTO COUPLER, TLP421F(GR)
QE40	23085463	IC, SI-8050E
QE52	23205567	TRANSISTOR, CHIP R1=R2=22K SMT RN2403(TE85L,F)
QE53	23205330	TRANSISTOR, RN1403(F)
QE64	23085415	IC, BD4746G
QE71	23135085	IC, IC, HYBRID IC DCDC CONVERT CE-1050
QE74	23205330	TRANSISTOR, RN1403(F)
QE75	23205446	TRANSISTOR, 2SC2412K, Q T146
QE83	23085389	IC, NJM431L
QE90	23085423	IC, KIA7809API-U/P
QE94	23205292	TRANSISTOR, 2SD2396
QE95	23205446	TRANSISTOR, 2SC2412K, Q T146
QE96	23205301	TRANSISTOR, 2SA1887(FA,F)
QE97	23205569	TRANSISTOR, CHIP VCEO=120V 2SC2713-GR(TE85L,F)
QE98	23205568	TRANSISTOR, CHIP VCEO=-120V 2SA1163-GR(TE85L,F)
QV16	23085823	IC, 2IN-1OUTSW 6DBAMP CLP(PB F MM1508XNRE
D670	23362140	DIODE, KDS160-RTK
D671	23362140	DIODE, KDS160-RTK
D674	23362140	DIODE, KDS160-RTK
D675	23362140	DIODE, KDS160-RTK
D676	23362140	DIODE, KDS160-RTK
D677	23362140	DIODE, KDS160-RTK
D678	23362140	DIODE, KDS160-RTK
D679	23362140	DIODE, KDS160-RTK
D680	23362140	DIODE, KDS160-RTK
D681	23362140	DIODE, KDS160-RTK
D801	23362200	DIODE, VRM=600V IO=6A SIP D5SB60, 7009F07
D805	23357627	DIODE, ZENER, RD9.1ESA B1
D806	23357666	DIODE, ZENER, RD27ESA B3
D809	23357654	DIODE, ZENER, RD36ESA B3
D810	23357666	DIODE, ZENER, RD27ESA B3
D811	23357511	DIODE, AG01A
D812	23357625	DIODE, ZENER, RD9.1ESA B3
D813	23357512	DIODE, AL01Z
D852	23357697	DIODE, 1SS133
D883	23362196	DIODE, SCHOTTKY VRM90V 20A RB215T-90
D884	23362196	DIODE, SCHOTTKY VRM90V 20A RB215T-90
D885	23357408	DIODE, FMX-12S(023-108)
⚠ D899	76000656	VARISTOR, TNR15G471K
DA01	23362042	DIODE, ZENER, UDZS6.8B
DA06	23362042	DIODE, ZENER, UDZS6.8B
DA07	23362042	DIODE, ZENER, UDZS6.8B
DB01	23358606	DIODE, LED RED, SLR-56VC3FPQ
DB20	23357406	DIODE, ZENER, UDZS5.6B
DB22	23357703	DIODE, 1SS355
DB23	23357703	DIODE, 1SS355
DE01	23362204	DIODE, DIODE, D3SB60 ,7109F08
DE02	23357511	DIODE, AG01A
DE03	23357511	DIODE, AG01A
DE05	23357104	DIODE, 1SS244
DE06	23357366	DIODE, FR105-B5
DE07	23362103	DIODE, ZENER, DZ33 BS B
DE09	23362074	DIODE, ZENER, DZ6.8 BS B
DE11	23357709	DIODE, RU1P
DE12	23357512	DIODE, AL01Z
DE13	23357512	DIODE, AL01Z
DE14	23357512	DIODE, AL01Z
DE15	23362099	DIODE, ZENER, DZ27 BS B
DE16	23357880	DIODE, ZENER, MTZJ20B
DE17	23357512	DIODE, AL01Z
DE19	23357854	DIODE, ZENER, MTZJ10B
DE50	23357706	DIODE, AK04
DE51	23357842	DIODE, ZENER, MTZJ6.8B
DE52	23357703	DIODE, 1SS355
DE54	23357703	DIODE, 1SS355

Location No.	Parts No.	Description
DE55	23357748	DIODE, ZENER, MA8062-M
DE56	23357800	DIODE, ZENER, MA8300-H
DE72	23357366	DIODE, FR105-B5
DE75	23357408	DIODE, FMX-12S(023-108)
DE90	23357866	DIODE, ZENER, MTZJ12C
DE92	23357862	DIODE, ZENER, MTZJ11B
DE93	23357862	DIODE, ZENER, MTZJ11B
DE94	23357862	DIODE, ZENER, MTZJ11B
DE96	23357840	DIODE, ZENER, MTZJ6.2B
DE97	23357869	DIODE, ZENER, MTZJ13C
DE98	23357869	DIODE, ZENER, MTZJ13C
DE99	23357703	DIODE, 1SS355
IC404	23085873	IC, ROM 512KX16BIT FLASH MX26LV800TTC-55G
IC710	75001217	IC, TC7SH04FU, INVERTER
KB01	23009710	IC, REMOCON RECEIVER, GP1UE281RK

MISCELLANEOUS

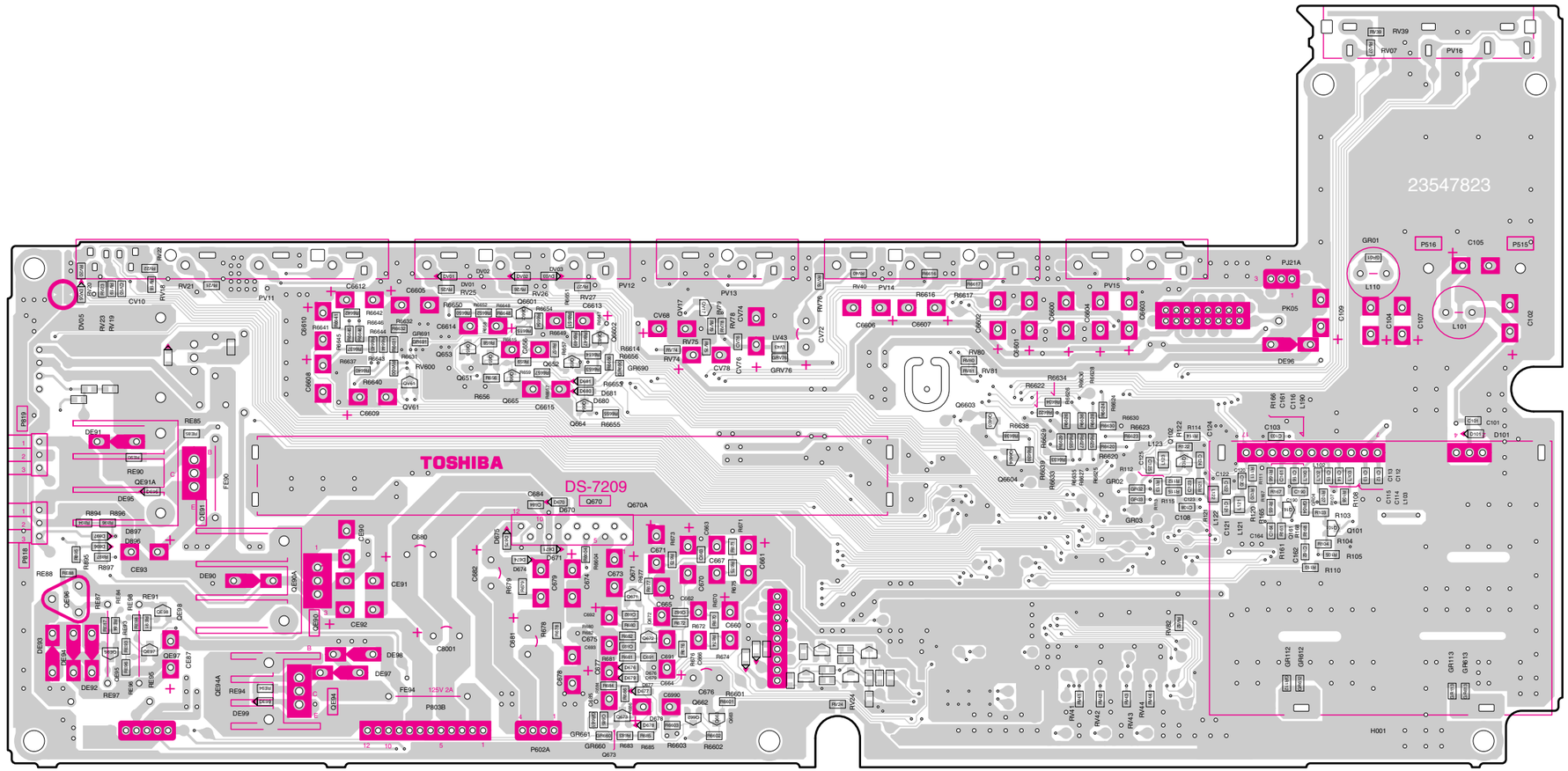
⚠ B001	23301641	04CMO27, V270W1-L04
B313	23717306	SCREW WITH WASHER
C198A	23969797	TAPE
C199A	23969797	TAPE
C888A	23969797	TAPE
C888B	23969797	TAPE
D801B	23717240	SCREW
D883B	23717240	SCREW
D884B	23717240	SCREW
DE75B	23717240	SCREW
⚠ F801	23144319	FUSE, CARTRIDGE, 125V 8A, 5.2X20
F801A	23165433	FUSE HOLDER, 5.2 SOC
F801B	23165433	FUSE HOLDER, 5.2 SOC
⚠ F802	23144227	FUSE, AXIAL, 125V 5A
⚠ F889	23144715	FUSE, AXIAL 125V 5.0A
⚠ FE01	23144380	FUSE, RADIAL LEAD SUB-MINIATUR 250V 3.15A
⚠ FE72	23144708	FUSE, AXIAL 125V 1.0A
FE75	23144715	FUSE, AXIAL 125V 5.0A
⚠ FE94	23144710	FUSE, AXIAL 125V 2.0A
GE50	23103302	FERRITE CHOKE, TEM2011AH
GE51	76000445	CHIP JUMPER, 1608TYPE
GR01	76000445	CHIP JUMPER, 1608TYPE
GR02	76000445	CHIP JUMPER, 1608TYPE
GR03	76000445	CHIP JUMPER, 1608TYPE
GR04	76000445	CHIP JUMPER, 1608TYPE
GR661	76011223	CHIP, 1/20W 22K OHM J
GR690	76000445	CHIP JUMPER, 1608TYPE
GR691	76000445	CHIP JUMPER, 1608TYPE
MEM1	23340033	CORTEZ EEPROM VER, 00 IC413
MZ01	23513230	CABLE, LVDS30P250MM COM T4 E30-S30
P601	23713755	PLUG, 4P 2.5MM G, B4B-EH-F1-TV4
P602A	23713937	CONNECTOR, PLUG 4P B4B-PH-K-S(LF)
P602B	23713937	CONNECTOR, PLUG 4P B4B-PH-K-S(LF)
P661	23023302	EARPHONE JACK
⚠ P800	23713702	PLUG, 2P 11.88MM W VT
⚠ P801	23372264	POWER CORD, U/C 125V10A HSV 5 CMC-02P 11111
P803A	23713944	CONNECTOR, CONNECTB12B-PH-K-S(LF)
P803B	23713944	CONNECTOR, CONNECTB12B-PH-K-S(LF)
P804	23713942	CONNECTOR, CONNECTB10B-PH-K-S(LF)
P805	23713942	CONNECTOR, CONNECTB10B-PH-K-S(LF)
⚠ P811A	23713909	CONNECTOR, CONNECTORB4P-VH(LF)
P811B	23713909	CONNECTOR, CONNECTORB4P-VH(LF)
⚠ P812A	23713910	CONNECTOR, CONNECTORB5P-VH(LF)
P812B	23713910	CONNECTOR, CONNECTORB5P-VH(LF)
P813A	23713937	CONNECTOR, PLUG 4P B4B-PH-K-S(LF)
P813B	23713937	CONNECTOR, PLUG 4P B4B-PH-K-S(LF)
PJ21A	23713934	CONNECTOR, 2MM 3P S WHT B3B-PH-K-S(LF)
PJ22	75000442	CONNECTOR, FPC
PJ22A	23713960	CONNECTOR, 50P FFC 9637S-50Y901

Location No.	Parts No.	Description
PJ41	23713943	CONNECTOR,CONNECTB11B-PH-K-S(LF)
PJ41A	23713943	CONNECTOR,CONNECTB11B-PH-K-S(LF)
PJ42	23713939	CONNECTOR,CONNECTB6B-PH-K-S(LF)
PJ42A	23713948	CONNECTOR,CONNECTS6B-PH-K-S(LF)
PJ60	75000442	CONNECTOR,FPC
PJ60A	23713960	CONNECTOR, 50P FFC 9637S-50Y901
PJ610	23713819	SOCKET, TWG-P23X-A1
PJ930	23713574	CONNECTOR, 7P TOPTYPE BM07B-SRSS-TBT(LF)
PP01	23845859	HOLDER, WIRE, PVC-C0AT, L=70MM
PP03	23974994	BAND, KESSOKU
PP04	23974994	BAND, KESSOKU
PP08	23974994	BAND, KESSOKU
PV11	23023417	JACK, PIN RA 1S+3/3P SMK RESERVE
PV12	23023423	JACK, PIN RA 3P SMK T-4P
PV13	23023419	JACK, PIN RA RESERVE RESERVE T-2P
PV14	23023418	JACK, PIN RA 3/3P SMK T-3/3P
PV15	23023419	JACK, PIN RA RESERVE RESERVE T-2P
PV16	23365563	JACK, PIN 0S3P R_ANG ICE IJBH4-MYS
Q670B	23717240	SCREW
QE01B	23717240	SCREW
QE90B	23717240	SCREW
QE94B	23717240	SCREW
SA01	23344505	SWITCH, PUSH 1C1P
SA02	23344505	SWITCH, PUSH 1C1P
SA03	23344505	SWITCH, PUSH 1C1P
SA04	23344505	SWITCH, PUSH 1C1P
SA05	23344505	SWITCH, PUSH 1C1P
SA06	23344505	SWITCH, PUSH 1C1P
SA07	23344505	SWITCH, PUSH 1C1P
SOF1	23340015	CORTEZ SOFT VER, HL85_0952 IC404
SOF2	23340016	SUB MICON SOFT VER, 4.7 IC400
⚠ SR81	23146588	RELAY, DLS5D1-O(M) 0.15W
W661	23351292	SPEAKER, SPK1410AM, 60X120 8-OHM 10W
PC BOARD ASSEMBLIES		
✻ U101A	75001304	PC BOARD ASSY, PD 2165A1 AV TERM
✻ U101B	75001305	PC BOARD ASSY, PD2165A2 LED
✻ U101C	75001306	PC BOARD ASSY, PD2165A3 KEY
✻ U103A	75001337	PC BOARD ASSY, PD2131G1 SIGNAL
✻ U811	75001399	PC BOARD ASSY, PD2164A1 POWER
✻ U812	75001400	PC BOARD ASSY, PD2164A2 AC-IN
TUNER		
⚠ H001	23321538	TUNER, TIF US HOR61 F 181CH C6 ENG36A37GF
ACCESSORIES		
A701A	23015074	CARTON,CASE
A702A	23946986	PACKING, TOP PACKING
A702B	23946987	PACKING, BOTTOM PACKING
A703	23945190	BAG, PROTECTIVE, 26WL36
⚠ K902	23306617	REMOCON HAND UNIT IR, CTVUSA CT-90159
⚠ Y101	23566644	OWNERS MANUAL, ENG/FRE/SPA
Y109	23945015	BAG, POLYETHYLENE COVER, 250X400
Y170	23845800	HOLDER, WIRE, NYLON66 D6.8
CABINET PARTS		
⚠ A201	23533371	COVER, FRONT BEZEL ASSY
A231	23717214	SCREW,BITTB3X12SBN
A240	23717267	SCREW, BITTB4X16 SBN 32LZ100
⚠ A315	23533375	COVER, BACK CENTER COVER
⚠ A320	23940386	PIECE, PIECE AV ASSY
A340	23940382	PIECE, PIECE 7KEY ASSY 27WL55A
A360	23717250	SCREW, PP4X12+SW+W SBN 42HP84
A365	23717219	SCREW, PP3X8+SW+W SBN
A370	23717267	SCREW, BITTB4X16 SBN 32LZ100
⚠ A401	23533330	COVER, BACK COVER 27WL55A

Location No.	Parts No.	Description
A410	23717219	SCREW, PP3X8+SW+W SBN
⚠ A420	23436868	FOOT, STAND ASSY 27WL55XE
A440	23738074	SCREW, PP 5X16 SW+W SBN
A445	23533610	COVER,CABLE COVER BOTTOM ASSY 27WL55A
⚠ A450	23533374	COVER, CABLE COVER SIDE ASSY 27WL55A

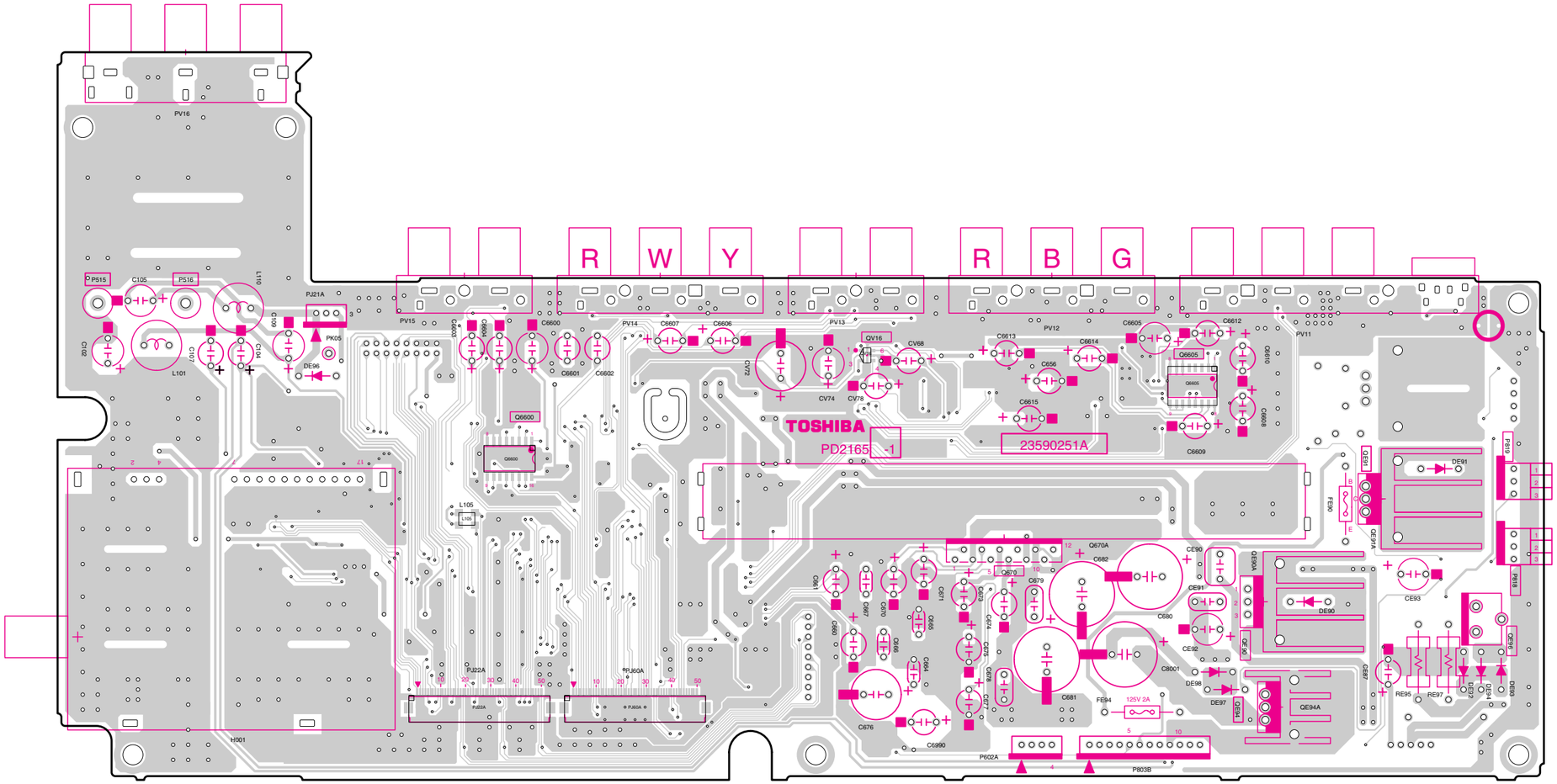
AV TERMINAL BOARD PD2165A1 (U101A)

BOTTOM (FOIL) SIDE



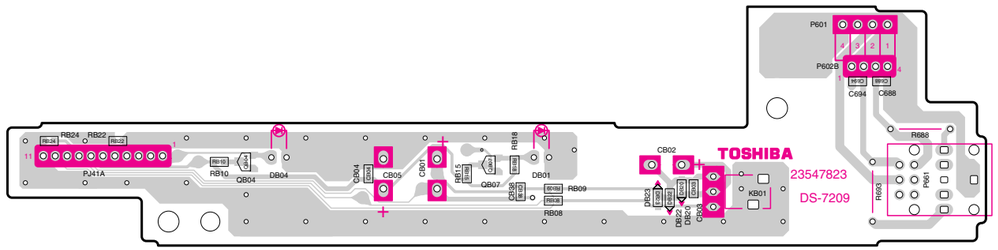
AV TERMINAL BOARD PD2165A1 (U101A)

TOP (COMPONENT) SIDE



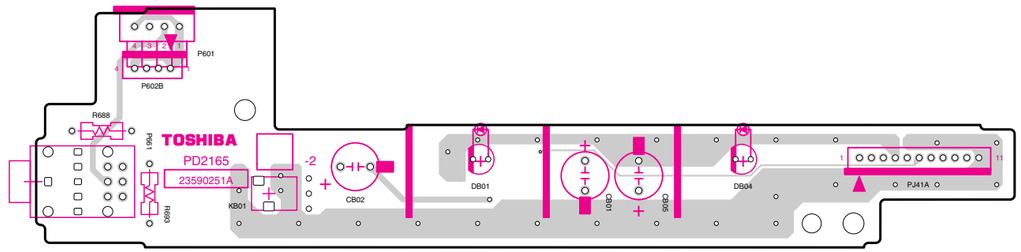
LED BOARD PD2165A2 (U101B)

BOTTOM (FOIL) SIDE



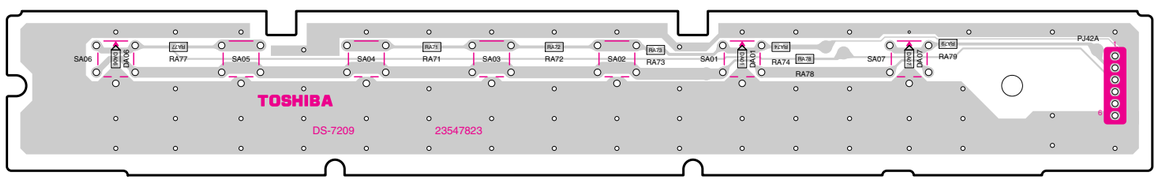
LED BOARD PD2165A2 (U101B)

TOP (COMPONENT) SIDE



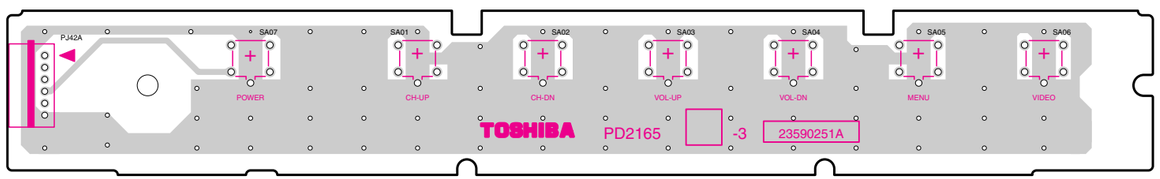
KEY BOARD PD2165A3 (U101C)

BOTTOM (FOIL) SIDE



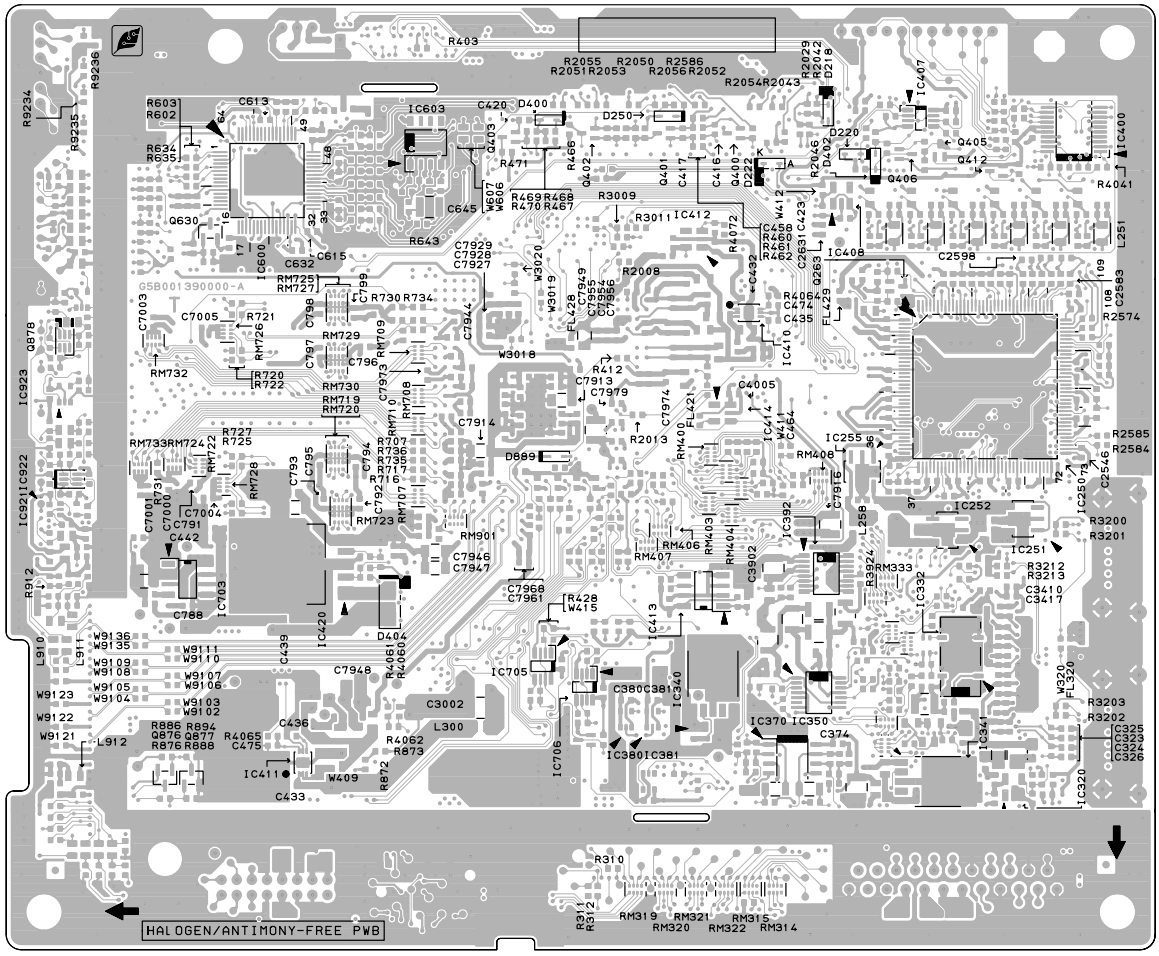
KEY BOARD PD2165A3 (U101C)

TOP (COMPONENT) SIDE



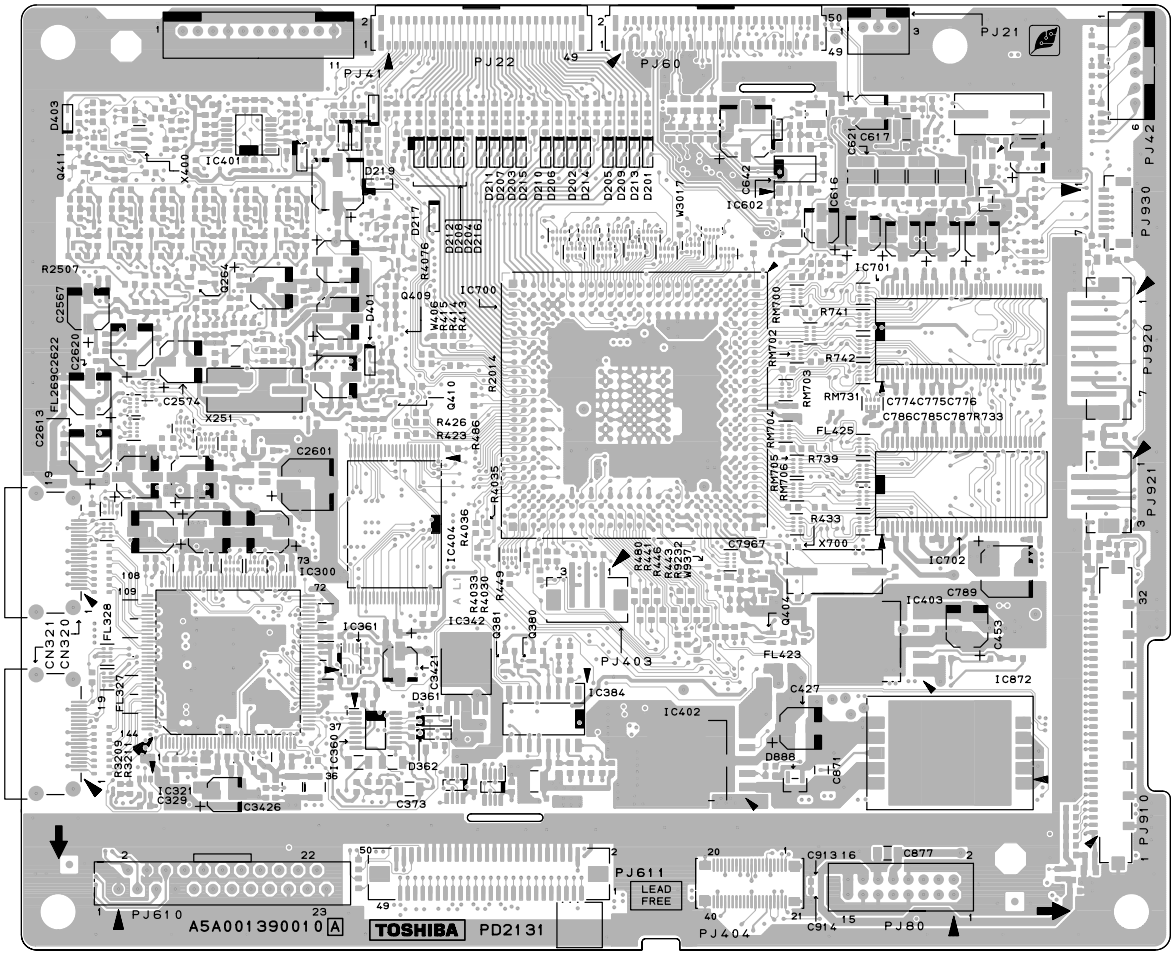
SIGNAL BOARD PD2131G1 (U103A)

BOTTOM (FOIL) SIDE



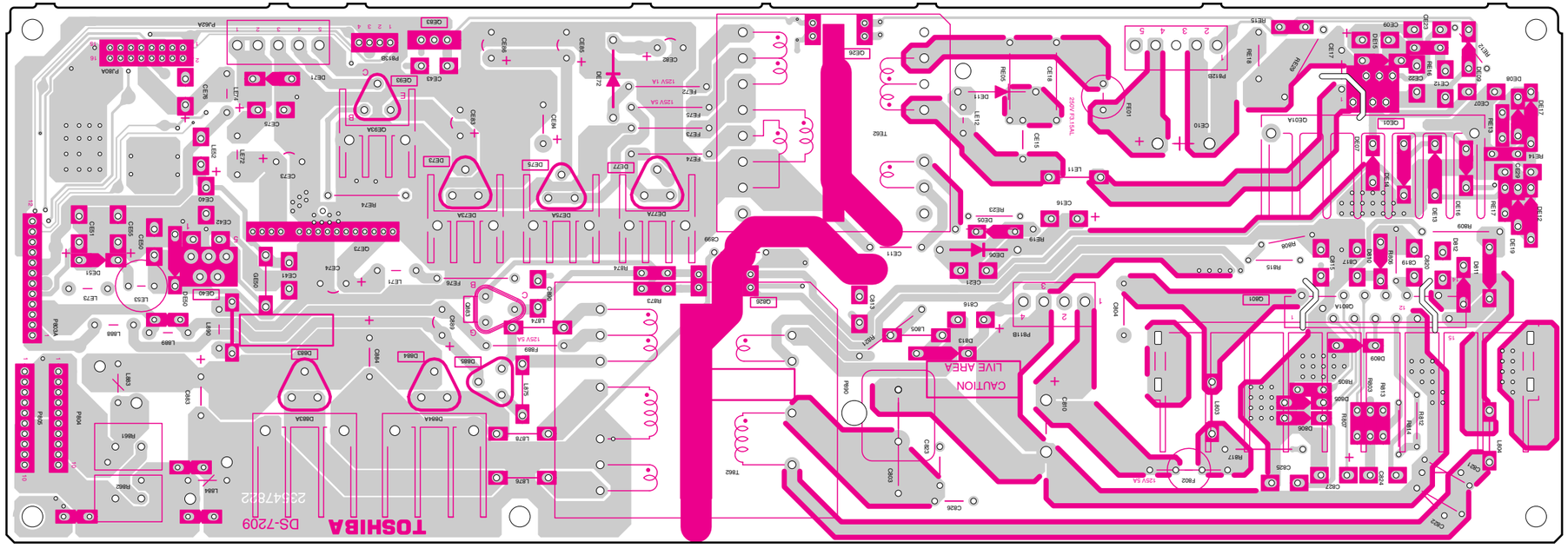
SIGNAL BOARD PD2131G1 (U103A)

TOP (COMPONENT) SIDE



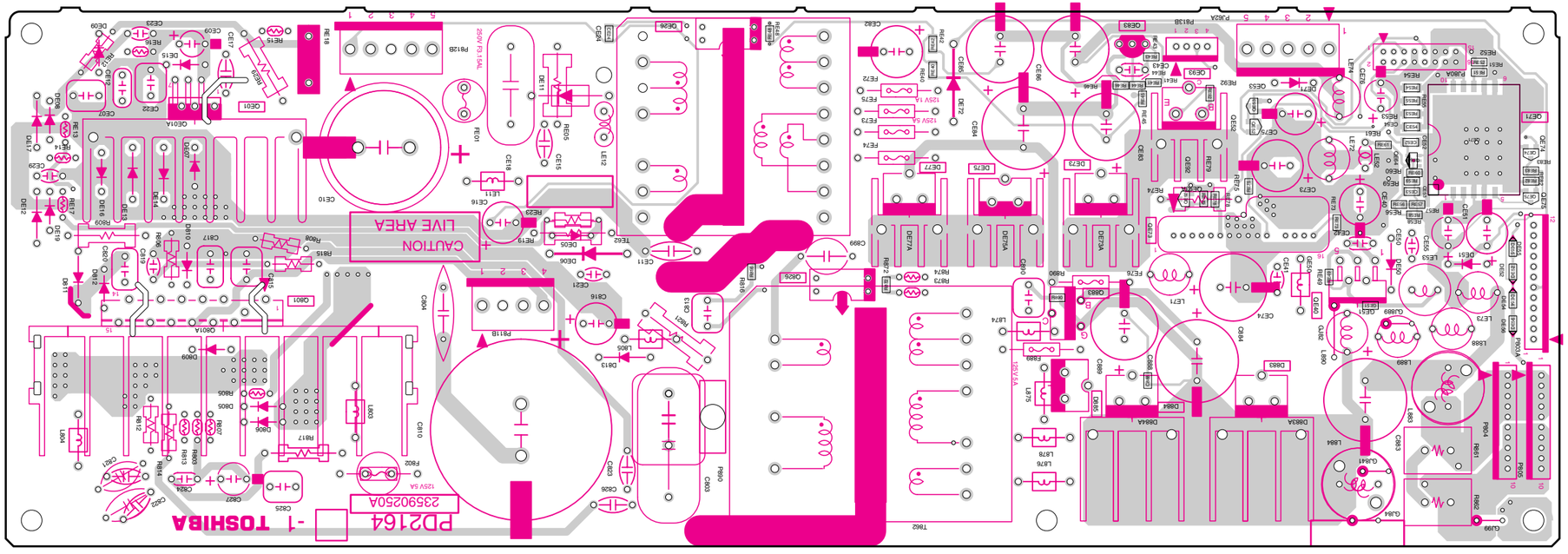
POWER BOARD PD2164A1 (U811)

BOTTOM (FOIL) SIDE



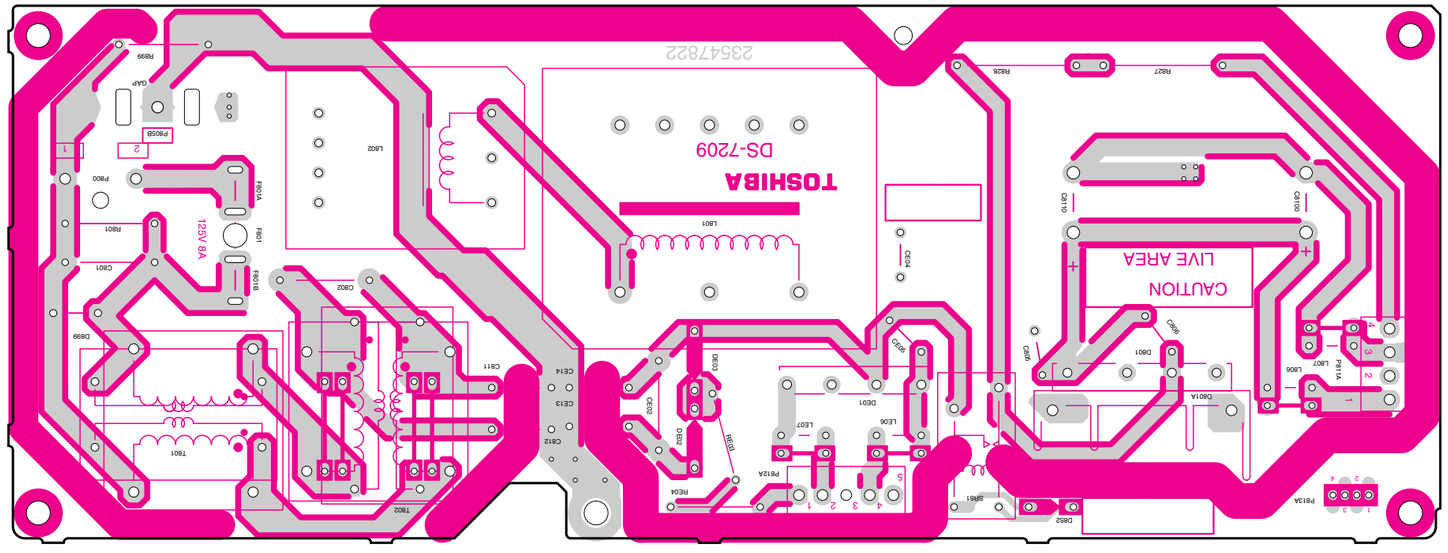
POWER BOARD PD2164A1 (U811)

TOP (COMPONENT) SIDE



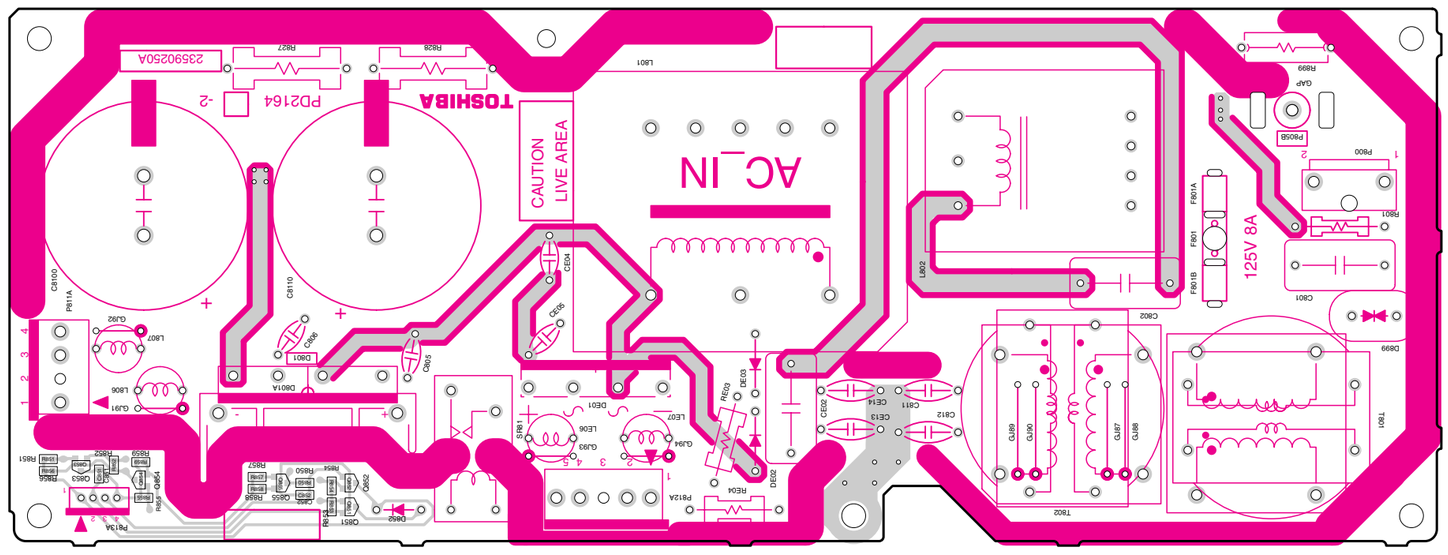
AC-IN BOARD PD2164A2 (U812)

BOTTOM (FOIL) SIDE



AC-IN BOARD PD2164A2 (U812)

TOP (COMPONENT) SIDE



SCHEMATIC DIAGRAM

MODEL : 27HL85

WARNING : BEFORE SERVICING THIS CHASSIS, READ THE "SERVICE SAFETY PRECAUTIONS" ON PAGE 3 OF THIS MANUAL.

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NOTE:

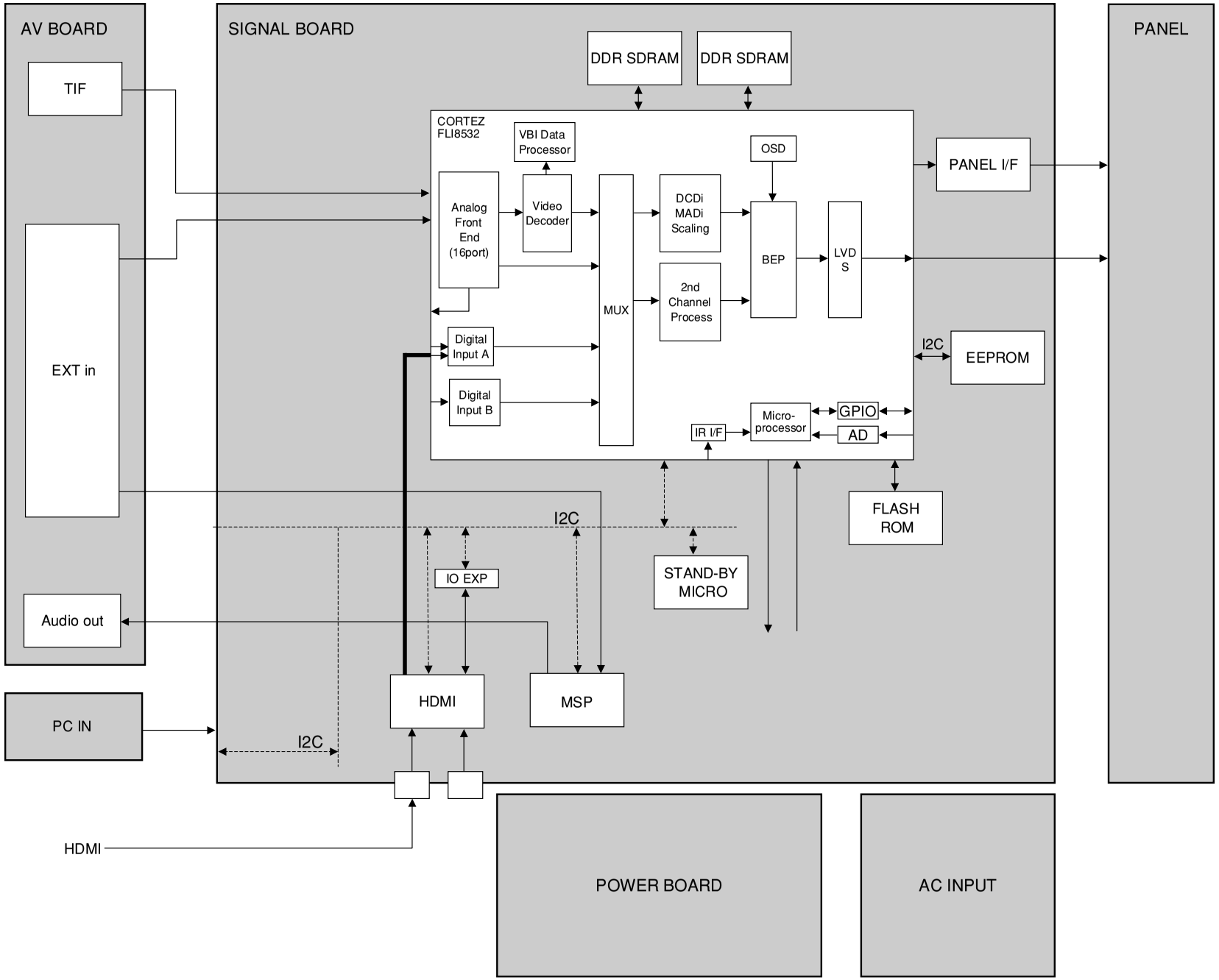
1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
   1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon compsistion of 1/2 watt
   1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
   K = ±10% G = ±2% F = ±1%
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   Electolytic capacitor Mylar capacitor
3. The parts indicated with " ⚠ " have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 220 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

■ **SCHEMATIC DIAGRAM STRUCTURE:**

CONNECTOR 1/47
AV_JACK 2/47
AUDIO_OUT 3/47
REGULATOR 4/47
LED_RMT 5/47
KEY 6/47
TIF 7/47
CONNECTOR(POWER_BOARD) 8/47
MAIN_POWER(POWER_BOARD) 9/47
SUB_POWER(POWER_BOARD) 10/47
AC-INPUT 11/47

SIGNAL
- ANALOG IN [SHEET-200] 12/47
- D IN A [SHEET-300] 13/47
- D IN B [SHEET-301] 14/47
- HDMI (Link, I2C) [SHEET-302] 15/47
- HDMI Rx#2 (Video/Audio) [SHEET-303] 16/47
- HDMI Rx#3 (PWR,Audio) [SHEET-304] 17/47
- HDMI AUDIO PLL [SHEET-305] 18/47
- HDMI AUDIO DAC [SHEET-306] 19/47
- HDMI AUDIO OUT [SHEET-307] 20/47
- HDMI CONTROLLER [SHEET-308] 21/47
- EEPROM1 [SHEET-309] 22/47
- EEPROM2 [SHEET-310] 23/47
- MICRO I/O [SHEET-400] 24/47
- OCM MEMORY I/F [SHEET-401] 25/47
- FLASH MEMORY [SHEET-402] 26/47
- SYNC SEPA [SHEET-403] 27/47
- E2P OTHER [SHEET-404] 28/47
- STD-BY MICOR [SHEET-405] 29/47
- CORTEZ REG 1 [SHEET-406] 30/47
- CORTEZ REG 2 [SHEET-407] 31/47
- CORTEZ REG 3 [SHEET-408] 32/47
- BOOT CONFIG [SHEET-409] 33/47
- SERVICE CONNECTOR [SHEET-410] 34/47
- I2C Switch [SHEET-411] 35/47
- AUDIO
  - (1/2) [SHEET-600] 36/47
  - (2/2) [SHEET-601] 37/47
- CORTEZ 1 [SHEET-700] 38/47
- CORTEZ 2 [SHEET-701] 39/47
- DDR I/F [SHEET-702] 40/47
- DDR SDRAM [SHEET-703] 41/47
- DDR TERMINATION [SHEET-704] 42/49
- DCDC CONV. [SHEET-802] 43/47
- LVDS OUT [SHEET-900] 44/47
- LVDS OUT(SHARP LCD) [SHEET-901] 45/47
- Power Connector and Dimming [SHEET-902] 46/47
- LVDS Power and Others [SHEET-903] 47/47

CIRCUIT BLOCK DIAGRAM



TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN

SCHEMATIC DIAGRAM

MODEL : 27HL85

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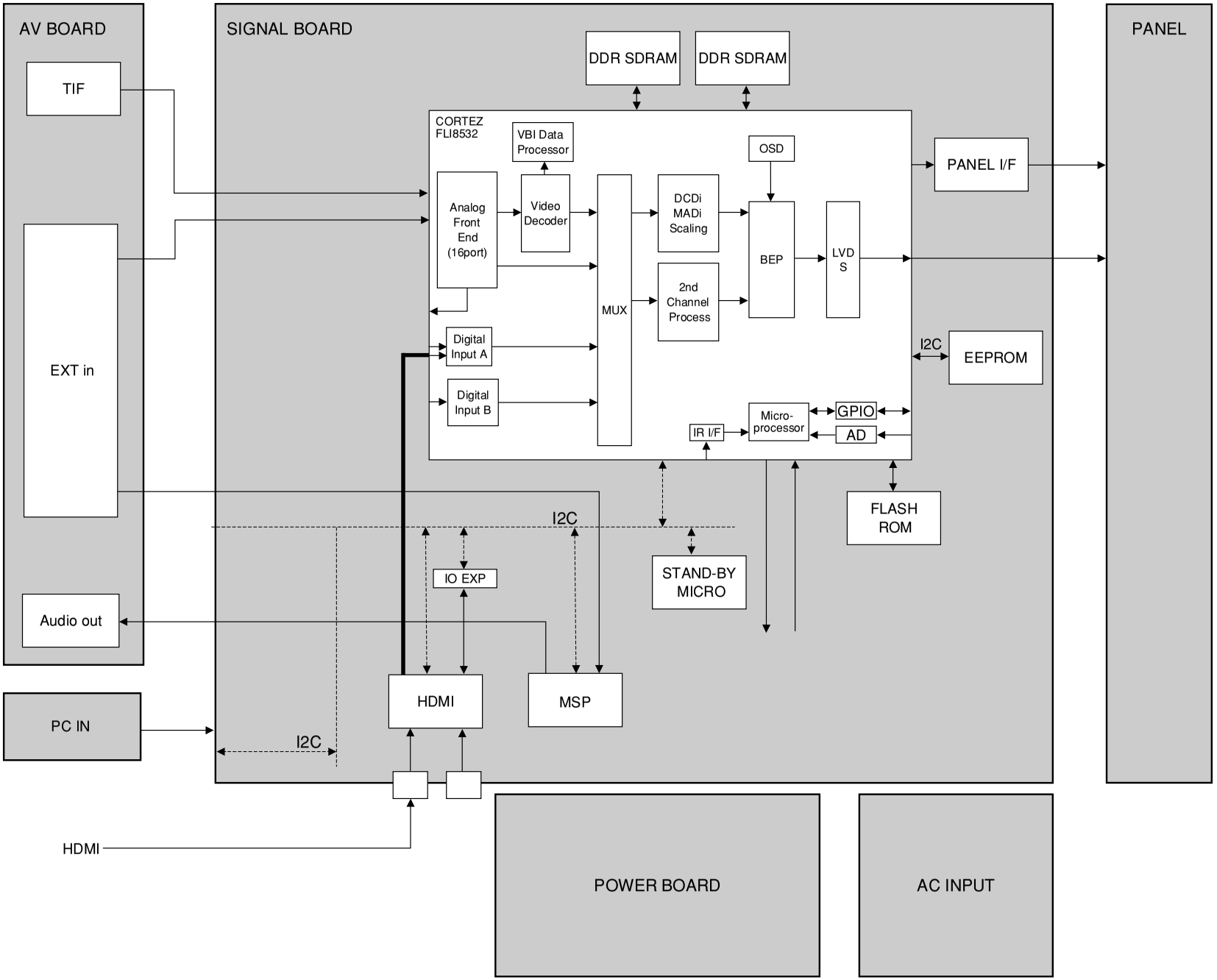
CIRCUIT BLOCK DIAGRAM



OTHER PARTS

- U111A PWB PD2165-1
- NV01 SOLDER CREAM
- NV02 SOLDER LINE
- NV03 SOLDER BAR
- NV04 FLUX
- NV05 SOLDER THREAD 1.0
- NV06 ADHESIVE
- NV07 SOLVENT IPA

TO SIGNAL BOARD

PJ22A

9637S-50ATLI/FFC/FPC 0.5mm50P SOCKET

PJ21A

PLUG_2mm_3P/B3B-PH-K-S

PJ60A

9637S-50ATLI/FFC/FPC 0.5mm50P SOCKET

TO LED_HP BOARD

P602A

PLUG_2mm_4P/B4B-PH-K-S

TO POWER BOARD

P803B

PLUG_2mm_12P/B12B-PH-K-S

TO FAN-2

P819

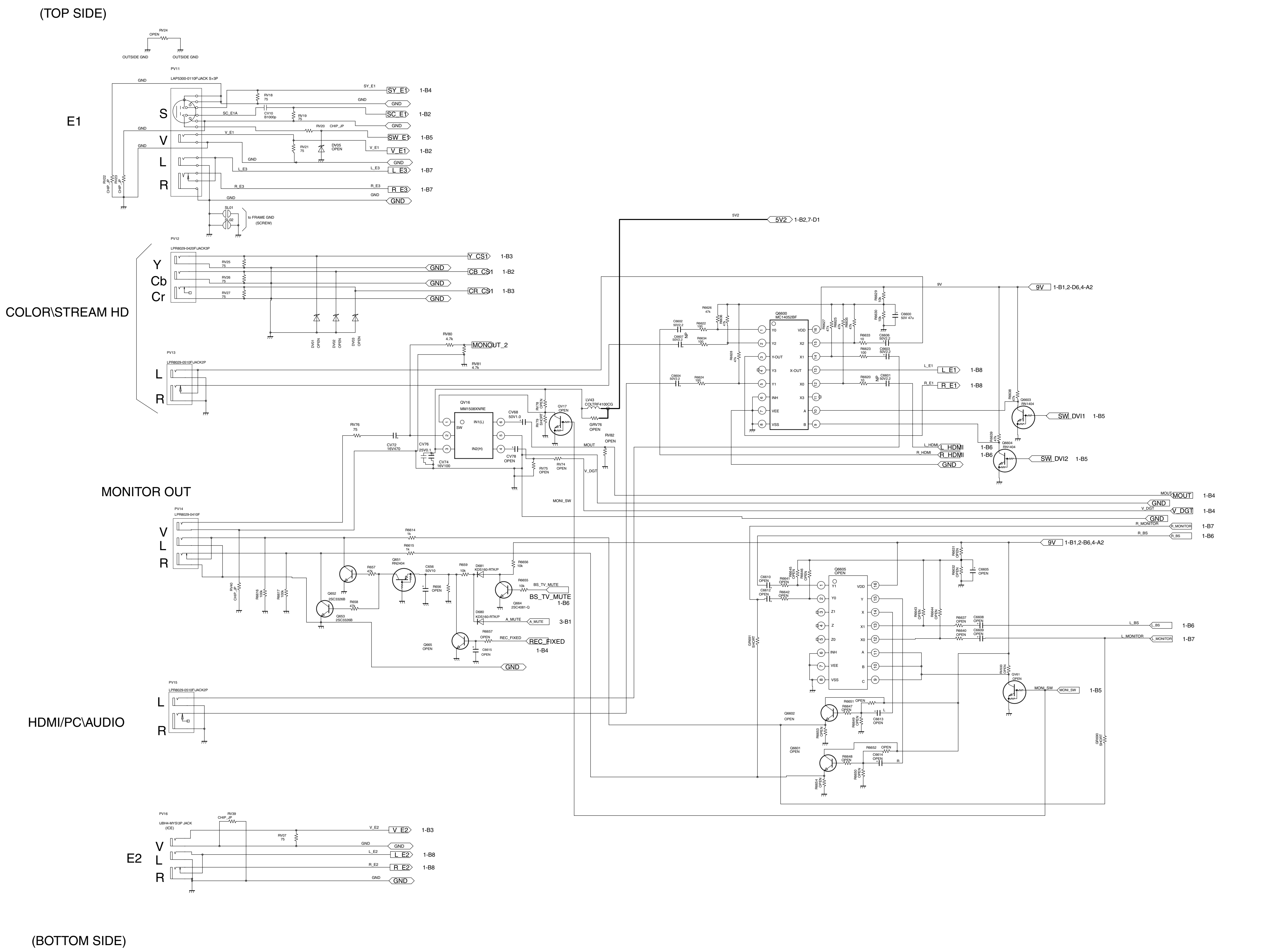
OPEN

TO FAN-1

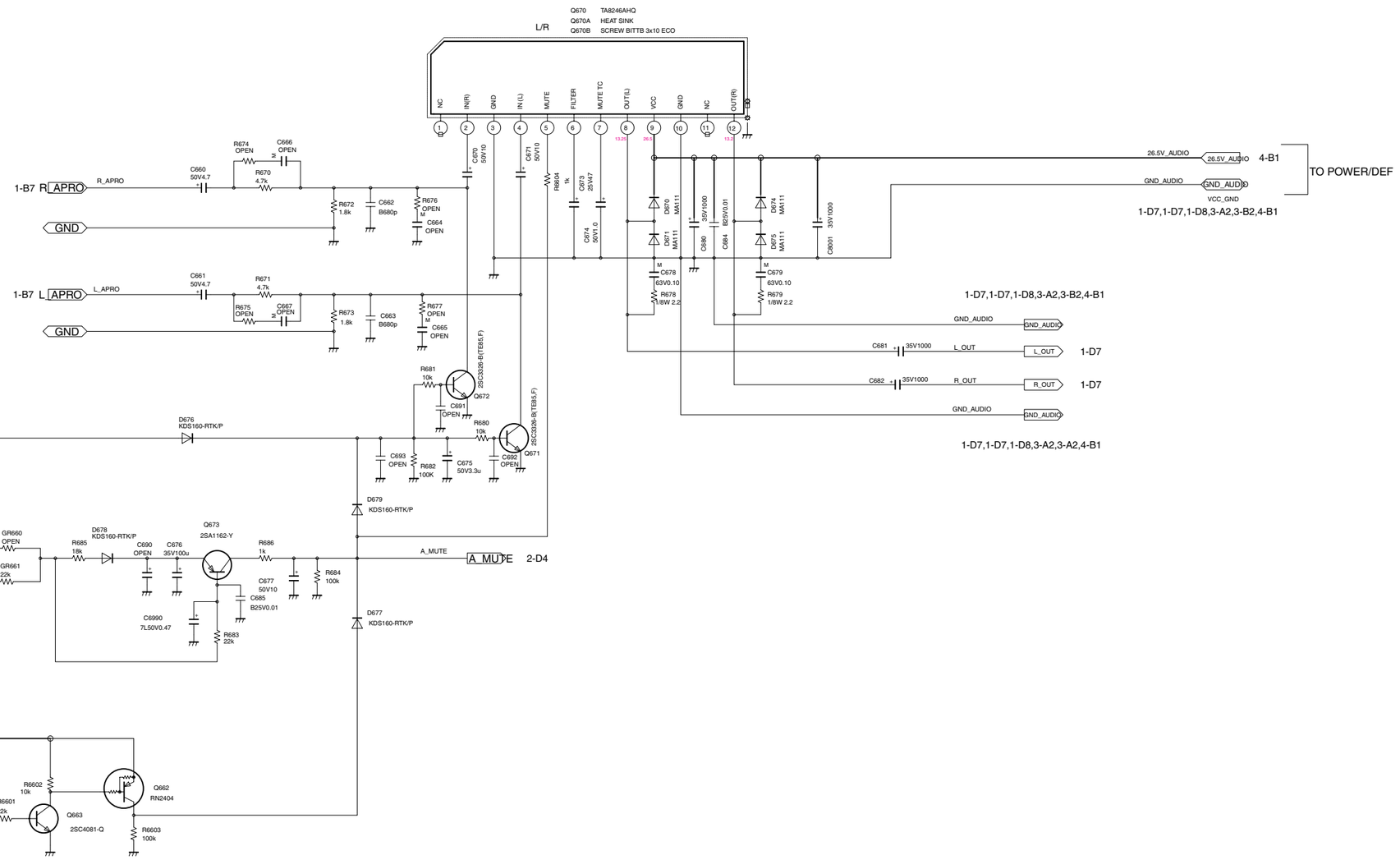
P818

OPEN

27HL85
CONNECTOR

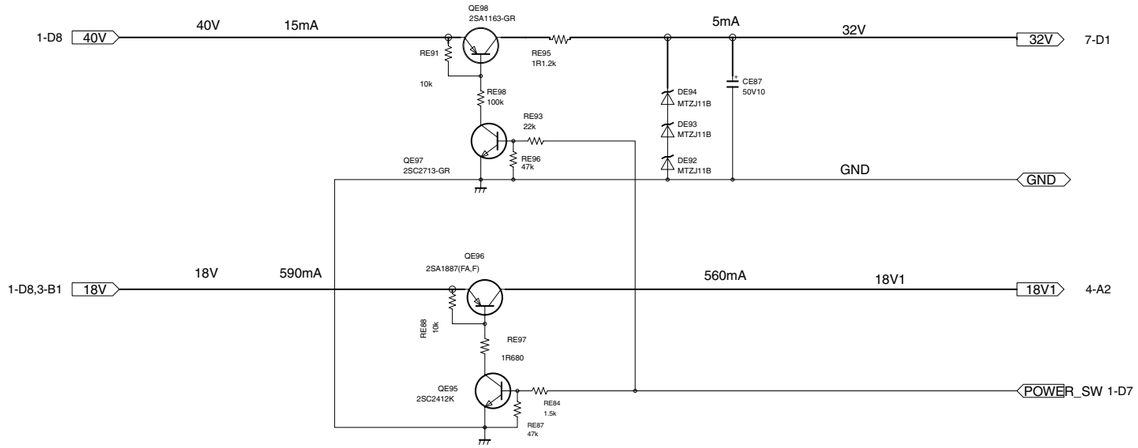

(TOP SIDE)
E1
S
V
L
R
SY_E1
SC_E1
SW_E1
V_E1
L_E3
R_E3
GND
1-B4
1-B2
1-B5
1-B7
to FRAME GND (SCREW)
COLOR\STREAM HD
Y
Cb
Cr
Y_CS1
CB_CS1
CR_CS1
1-B3
MONOUT_2
5V2
1-B2,7-D1
9V
1-B1,2-D6,4-A2
Q6600
MC14052BF
L_E1
R_E1
1-B8
SW_DVI1
SW_DVI2
L_HDMI
R_HDMI
1-B6
QV16
MM1508XNRE
MONITOR OUT
MOUT
V_DGT
R_MONITOR
R_BS
1-B1,2-B6,4-A2
BS_TV_MUTE
A_MUTE
3-B1
REC_FIXED
Q6605
L_BS
L_MONITOR
MONI_SW
HDMI/PC\AUDIO
E2
V_E2
L_E2
R_E2
1-B8
(BOTTOM SIDE)

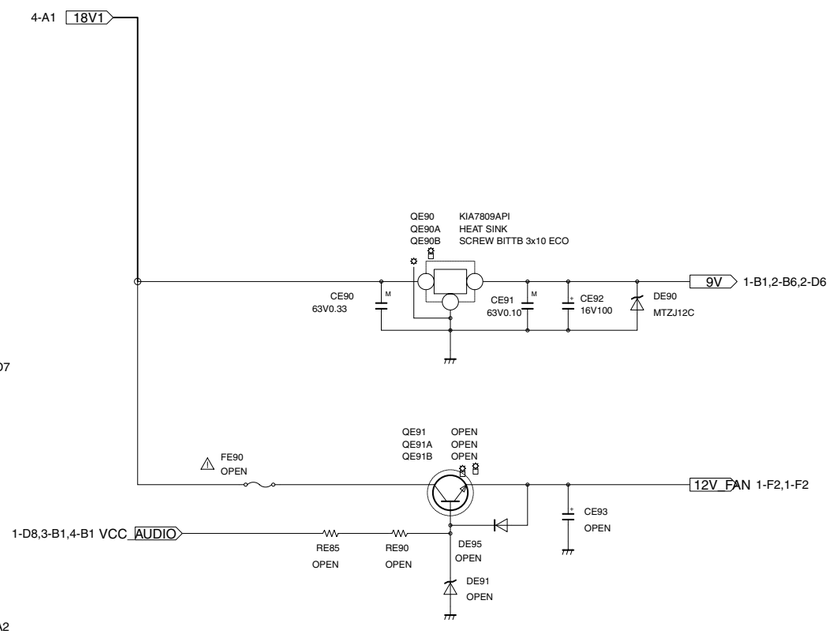
27HL85
AV_JACK

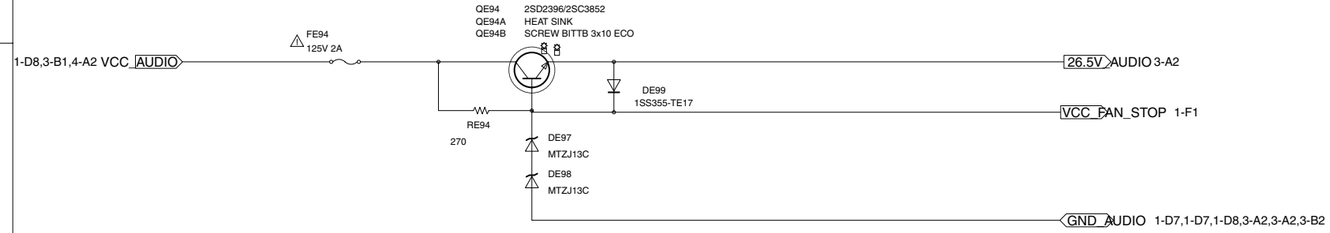


27HL85
AUDIO_OUT

From SUB_POWER







27HL85
REGULATOR

OTHER PARTS

U111B
PWB PD2165-2

TO SoundAMP Unit

GND
R-OUT
L-OUT
GND

P602B
PLUG_2mm_4P\B4B-PH-K-S

C688 OPEN
R688 1/2R330
C694 OPEN
R693 1/2R330

P661
EARPHONE J D3.5

GND
SPK-L
SPK-R
GND

To SPK CABLE

P601
PLUG_2.5mm_4P\B4B-EH-F1A

POWER (RED)
DB01
SCL-003URC3FXGHJ

RB15 470
RB18 OPEN
QB07 2SC2712Y
RB10 OPEN
QB04 OPEN

OPEN

DB04 OPEN
(GREEN)

CB04 25V0.1
CB05 7L10V220u

NC
NC
LED(GREEN)
GND
NC
LED(RED)
5V1
GND
RMT_IN
3.3V
RMT_FGND

PJ41A
PLUG_2mm_11P\B11B-PH-K-S

CB38 25V0.1
CB01 7L10V220u
RB34 CHIP_JP
RB22 OPEN

KB01 GP1UE281RK
GP1UE281RK0F
Vout
Vcc
GND

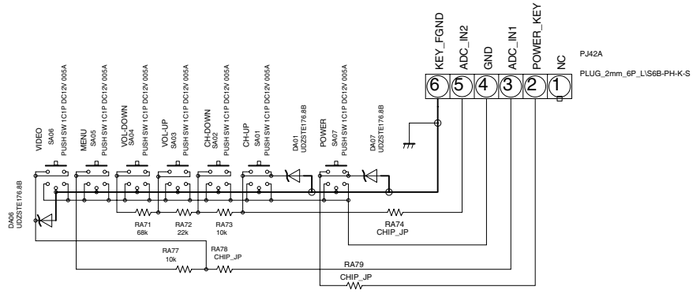
RB09 47
RB08 47
DB23 1SS355-TE17
DB22 1SS355-TE17

CB03 25V0.1
CB02 7L10V220u
DB20 UDZS TE-17 5.6B

27HL85
LED_RMT

OTHER PARTS

✱ U111C
PWB PD2165-3

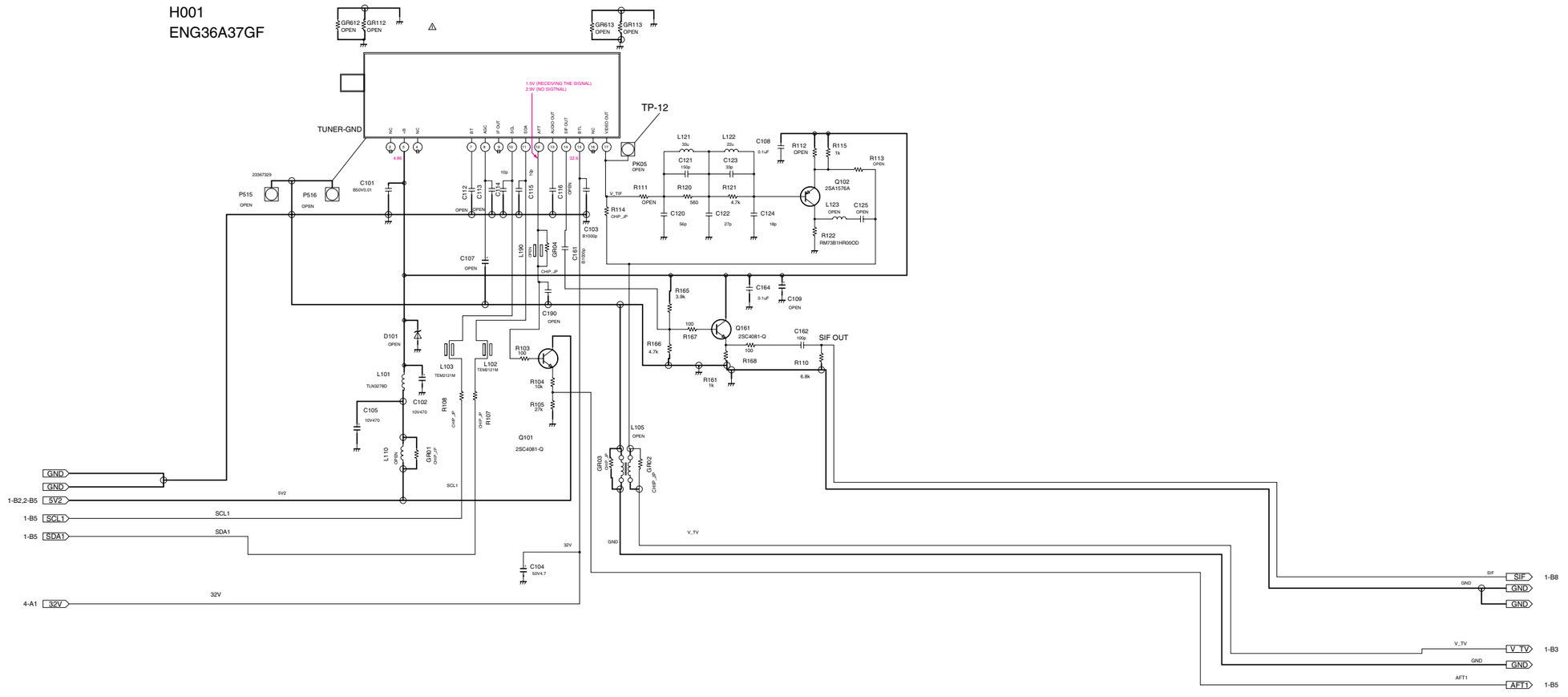


27HL85
KEY

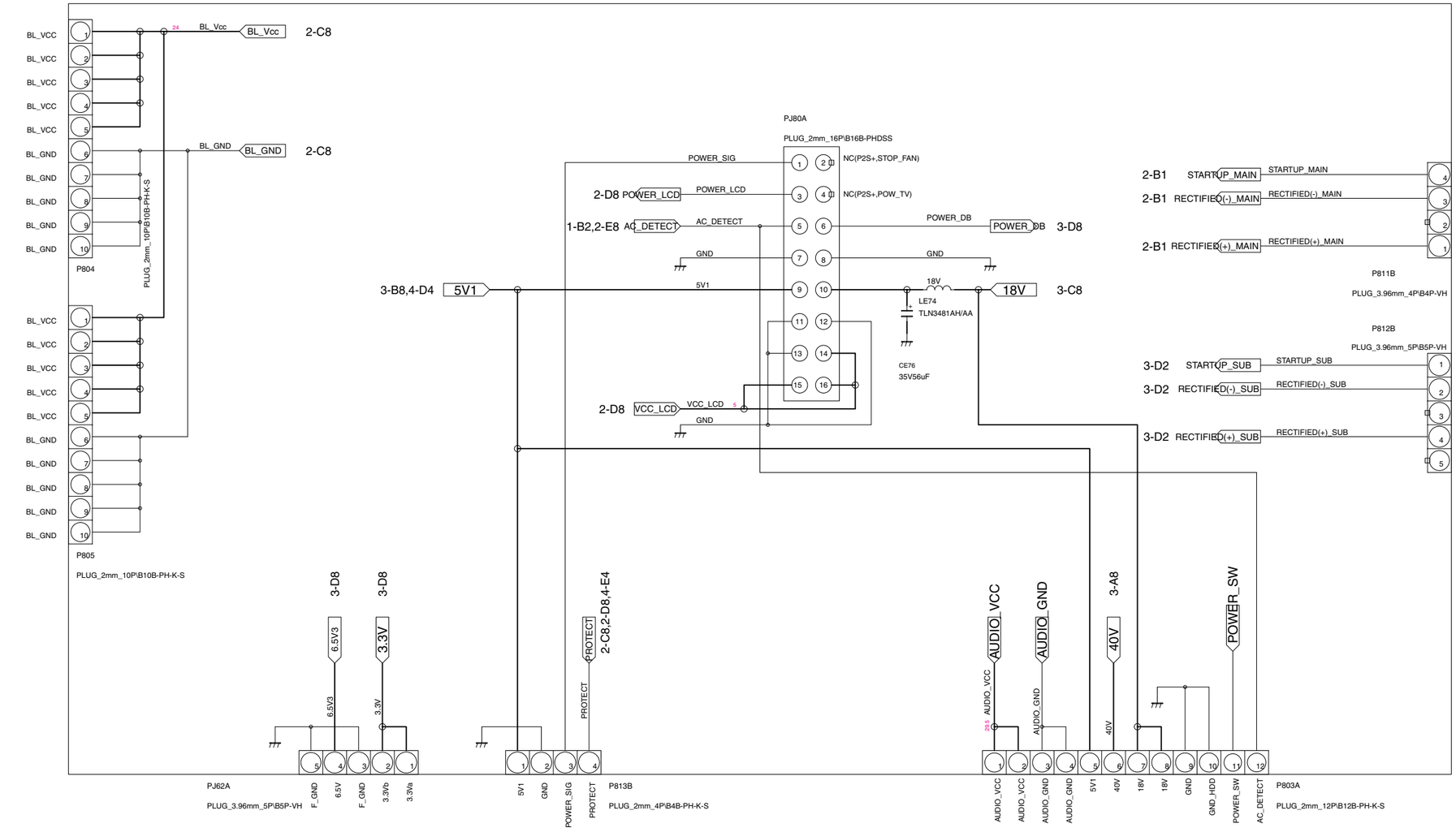
(6/47)

F-connector

H001
ENG36A37GF



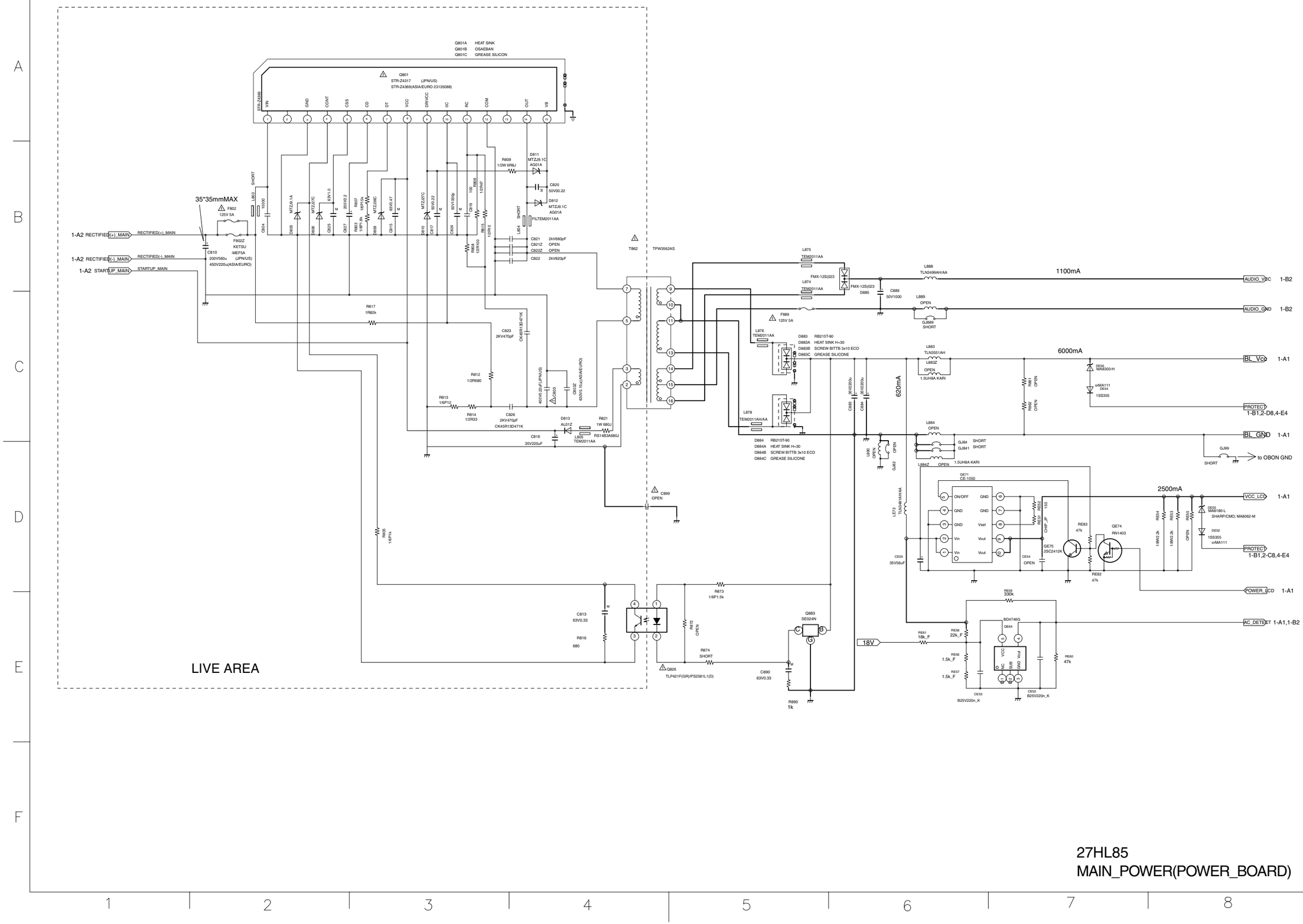
27HL85
TIF

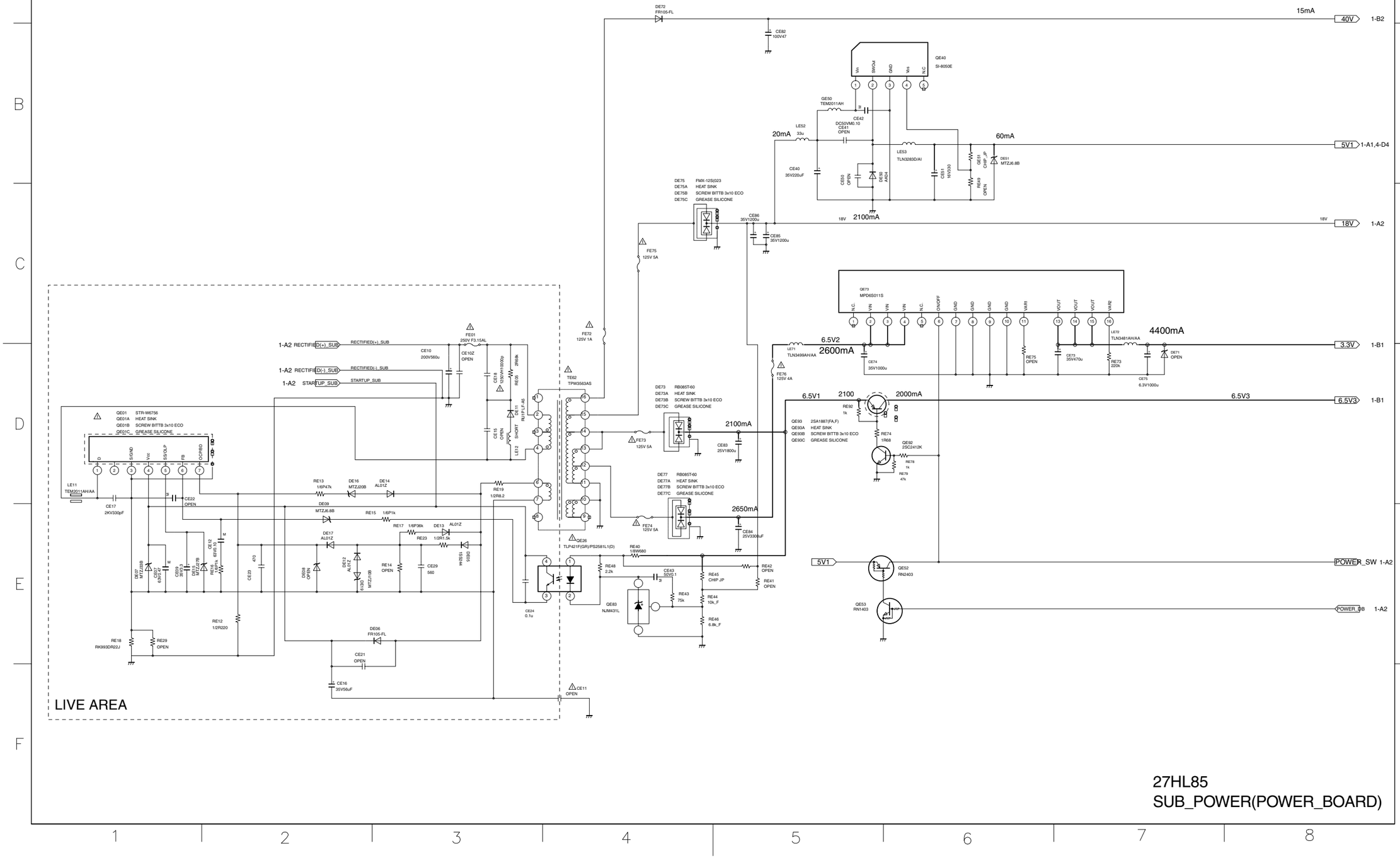


OTHER PARTS

- U821 PWB PD2082ZB
- N801 SOLDER CREAM
- N802 SOLDER LINE
- N803 SOLDER BAR
- N804 FLUX
- N805 SOLDER THREAD 1.0
- N806 ADHESIVE
- N807 SOLVENT IPA
- P890 WIRE CLIP

27HL85
CONNECTOR(POWER_BOARD)


Q801A HEAT SINK
Q801B OSAEBAN
Q801C GREASE SILICON
Q801 STR-Z4317 (JPN/US) STR-Z4369(ASIA/EURO 23135088)
STR-Z4369
VIN GND CONT CSS CD DT VCC DRVCC OC RC COM OUT VB
35*35mmMAX
F802 125V 5A
F802Z KETSU :MEF5A 200V560u (JPN/US) 450V220u(ASIA/EURO)
1-A2 RECTIFIED(+)_MAIN
1-A2 RECTIFIED(-)_MAIN
1-A2 STARTUP_MAIN
T862 TPW3562AS
LIVE AREA
18V
1100mA
6000mA
620mA
2500mA
AUDIO_VCC 1-B2
AUDIO_GND 1-B2
BL_Vcc 1-A1
PROTEC 1-B1,2-D8,4-E4
BL_GND 1-A1
to OBON GND
VCC_LCD 1-A1
PROTEC 1-B1,2-C8,4-E4
POWER_LCD 1-A1
AC_DETECT 1-A1,1-B2
27HL85
MAIN_POWER(POWER_BOARD)



27HL85
SUB_POWER(POWER_BOARD)

OTHER PARTS

U822
PWB PD20802B

CE04 250V4700pF
DE01 D3SB60, 7109F08
CE02 OPEN
DE02 1N4007
DE03 1N4007
CE05 250V4700pF
RE03 15k68k
RE04 15k68k
LE06 OPEN
LE07 OPEN
GJ93 SHORT
GJ94 SHORT
PLUG_3.96mm_5P/B5P-VH
P812A
NC
RECTIFIED(+)SUB
NC
RECTIFIED(-)SUB
STARTUP_SUB

CE13 250V100pF
CE14 250V100pF

D801 D5SB60, 7009F07
D801A HEAT SINK
D801B SCREW BITTB 3x10 ECO
D801C GREASE SILICONE
C805 250V4700pF
C806 250V4700pF
C8110 200V560u (JPN/US) 450V220u(ASIA/EURO)
C8100 OPEN
L806 OPEN
L807 OPEN
GJ91 SHORT
GJ92 SHORT
P811A
PLUG_3.96mm_4P/B4P-VH
RECTIFIED(+)MAIN
NC
RECTIFIED(-)MAIN
STARTUP_MAIN

R828 SHORT
R827 2R10k

L801 TPW2067AS
L802 TPW2068AS
L802A(INSULATOR):23084771
23/26LC100 first lot only
C802 AC275V0.22u
C811 250V2200pF
C812 250V2200pF
SHORT GJ89
SHORT GJ90
SHORT GJ95
SHORT GJ96
T802 OPEN
T802Z OPEN
T801 TRF3252AD
T801Z OPEN
R801 VR37 225J
D899 INR15G471K
C801 AC275V0.22u
R899 RN14A1A825J
GAP
P805B OPEN
NEUTRAL
LINE
F801A FUSE HOLDER
F801B FUSE HOLDER
F801 125V 8A (JPN/US 23144319) 250V T6.3AH (ASIA/EURO 23144304)
P800 Lock 2P_11.88mm_S

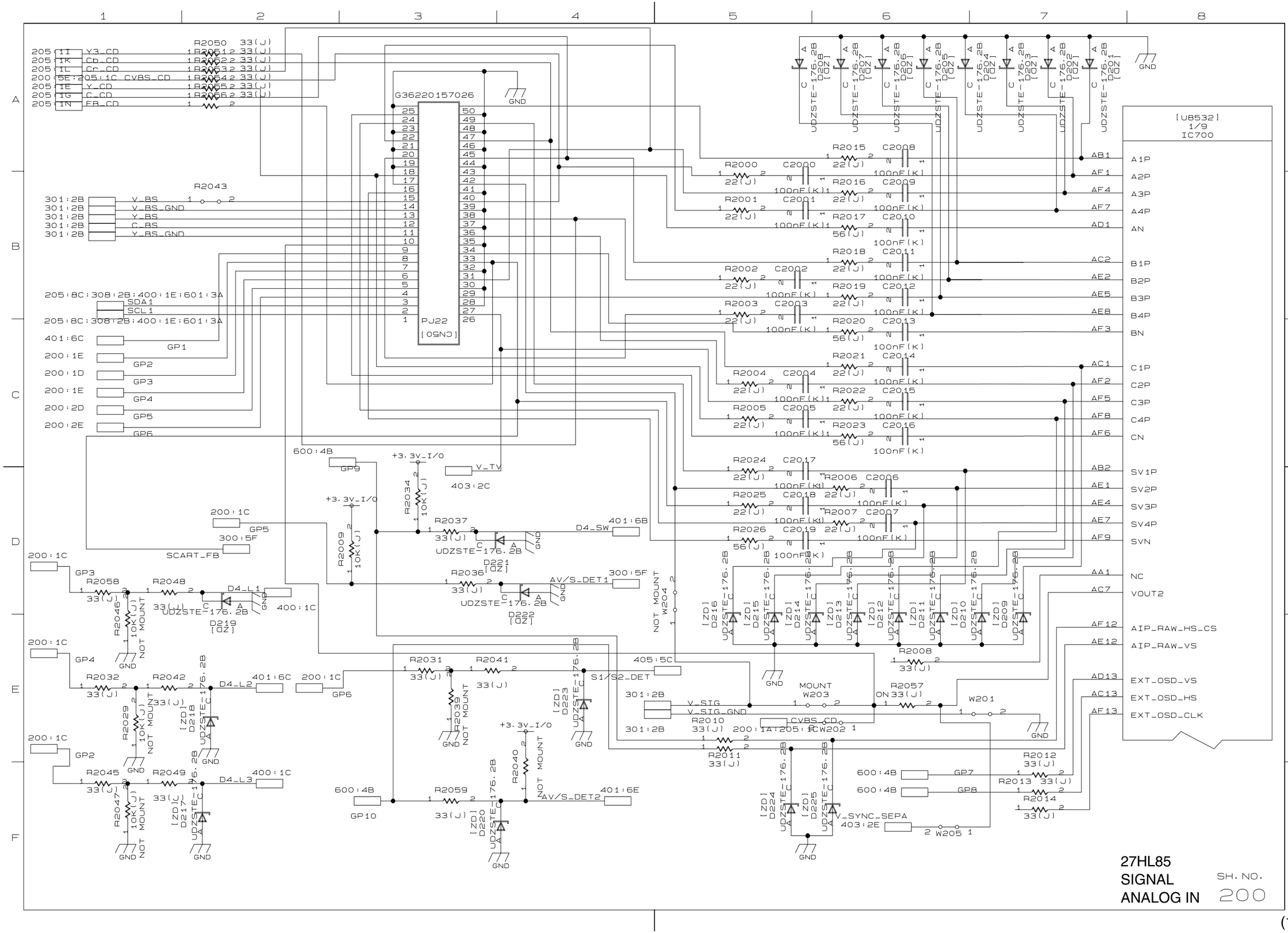
LIVE AREA

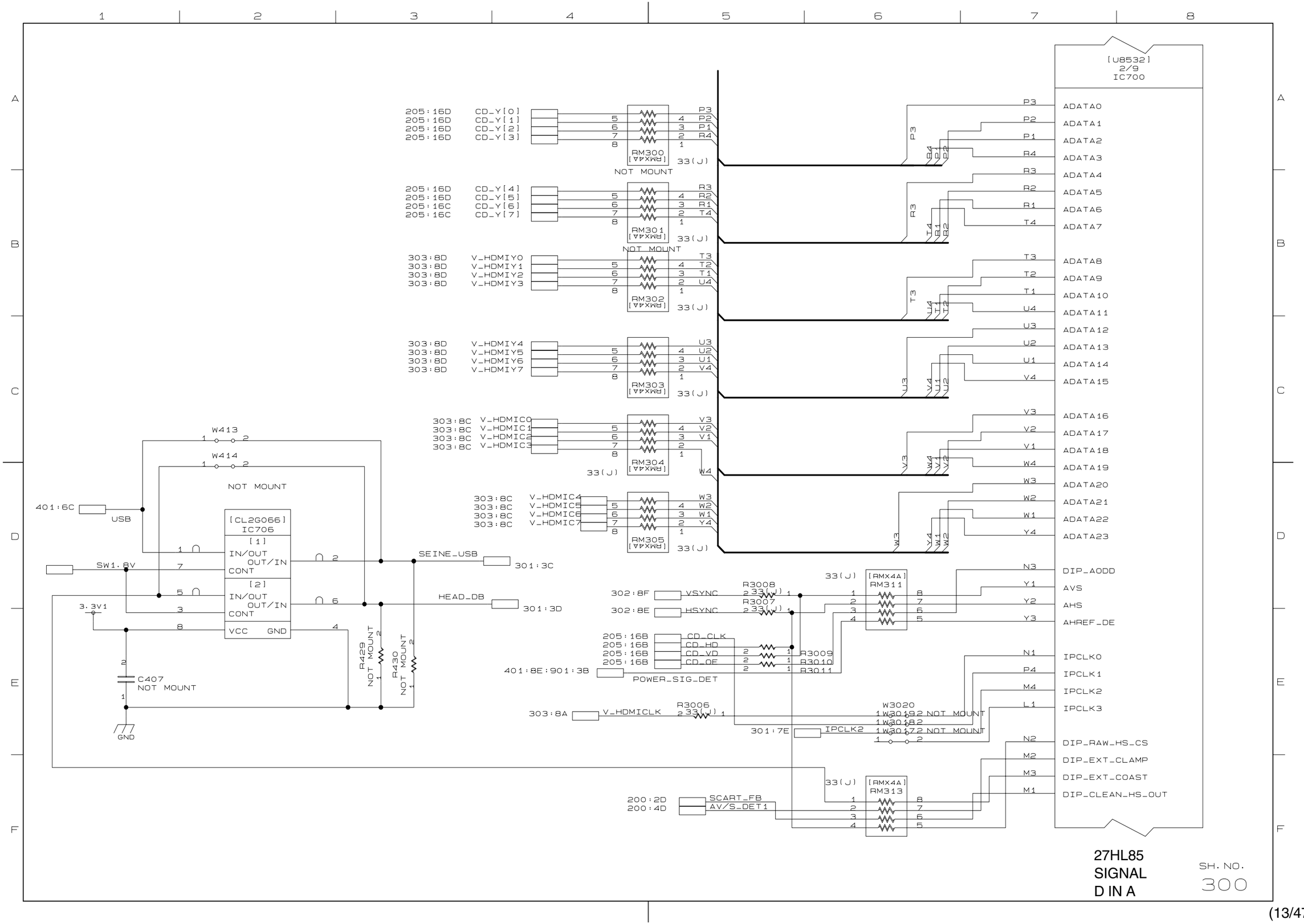
SR81 DLS5D1-O(M) 0.15W
D852 1SS133
Q852 2SC2412K
R854 1k
Q851 2SC2412K
R853 10k

5V1
GND
POWER_SIG
PROTECT
P813A
PLUG_2mm_4P/B4B-PH-K-S

R856 1k
R851 1k
R852 470
Q853 2SA1162-Y
R850 100
Q855 2SC2412K
Q854 2SC2412K
R855 470
R857 470
R859 1k
R858 470
C852 B1000p
C851 10V1u

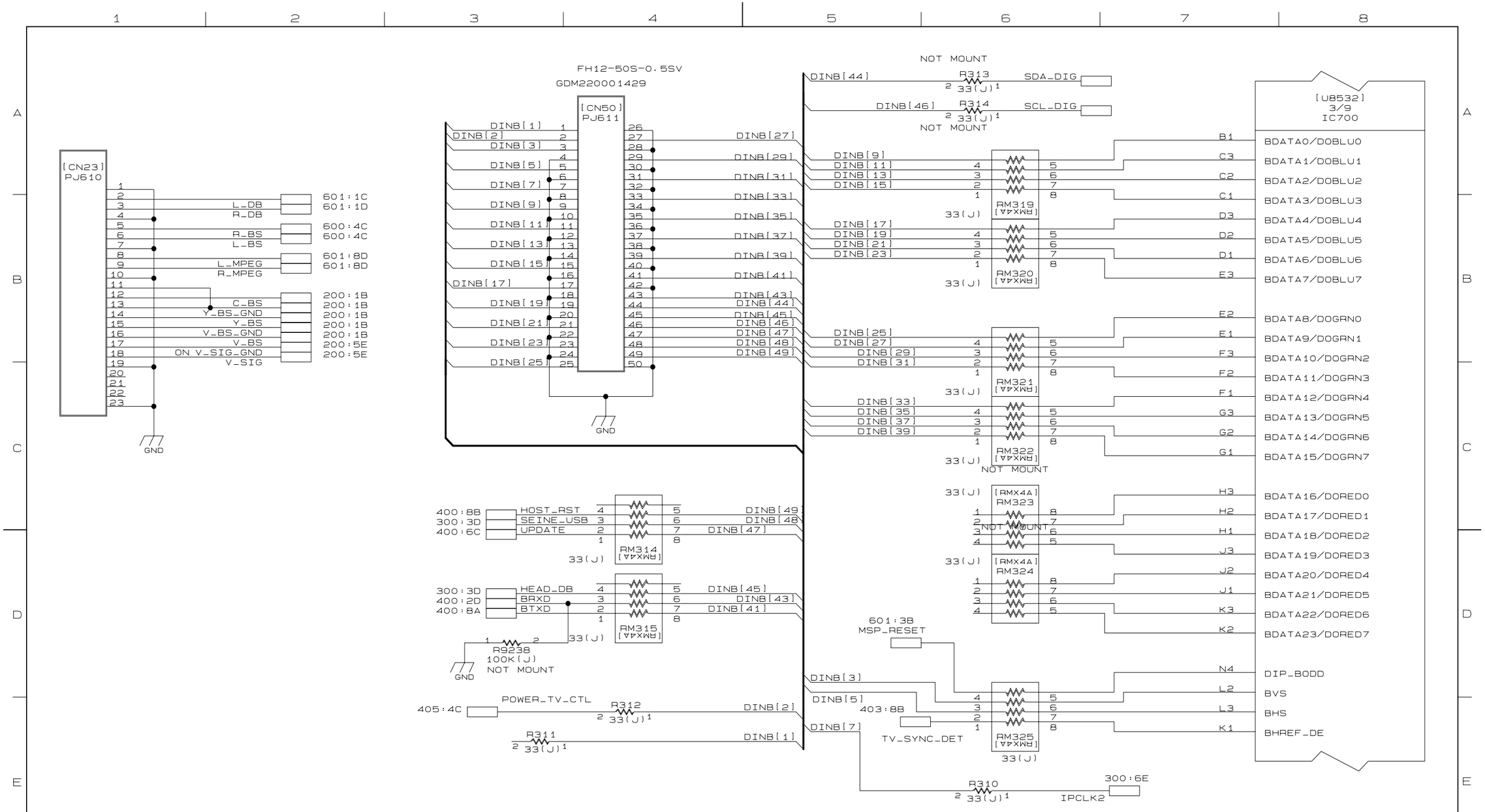
27HL85
AC_INPUT


[U8532]
1/9
IC700
G36220157026
PJ22
[CN50]
A1P
A2P
A3P
A4P
AN
B1P
B2P
B3P
B4P
BN
C1P
C2P
C3P
C4P
CN
SV1P
SV2P
SV3P
SV4P
SVN
NC
VOUT2
AIP_RAW_HS_CS
AIP_RAW_VS
EXT_OSD_VS
EXT_OSD_HS
EXT_OSD_CLK
Y3_CD
Cb_CD
Cr_CD
CVBS_CD
Y_CD
C_CD
FB_CD
V_BS
V_BS_GND
Y_BS
C_BS
Y_BS_GND
SDA1
SCL1
GP1
GP2
GP3
GP4
GP5
GP6
GP7
GP8
GP9
GP10
SCART_FB
V_TV
D4_SW
D4_L1
D4_L2
D4_L3
S1/S2_DET
AV/S_DET1
AV/S_DET2
V_SIG
V_SIG_GND
V_SYNC_SEPA
MOUNT W203
NOT MOUNT W204
W201
W202
W205
+3.3V_I/O
GND
UDZSTE-176.2B
27HL85
SIGNAL
ANALOG IN
SH. NO.
200



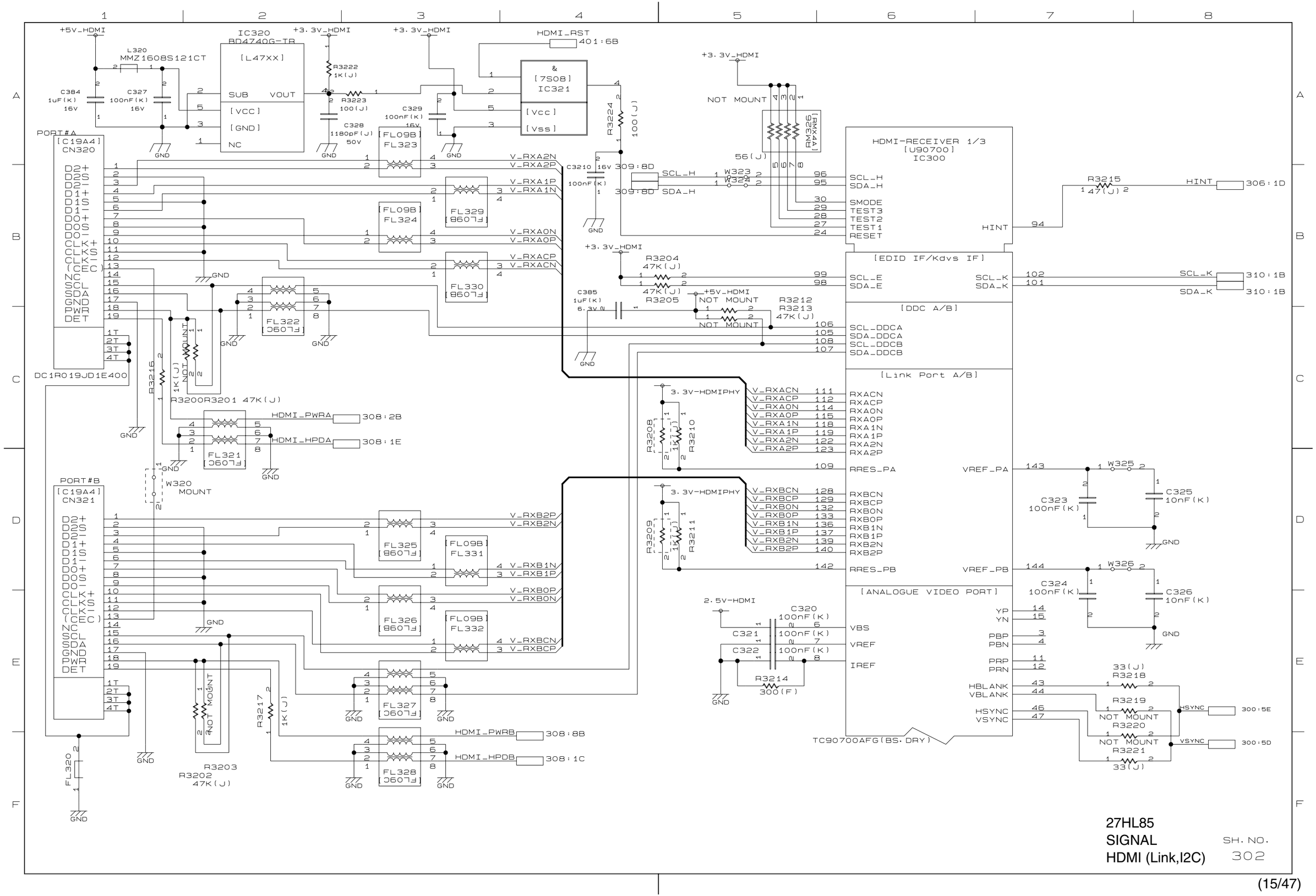
27HL85
SIGNAL
D IN A

SH. NO.
300



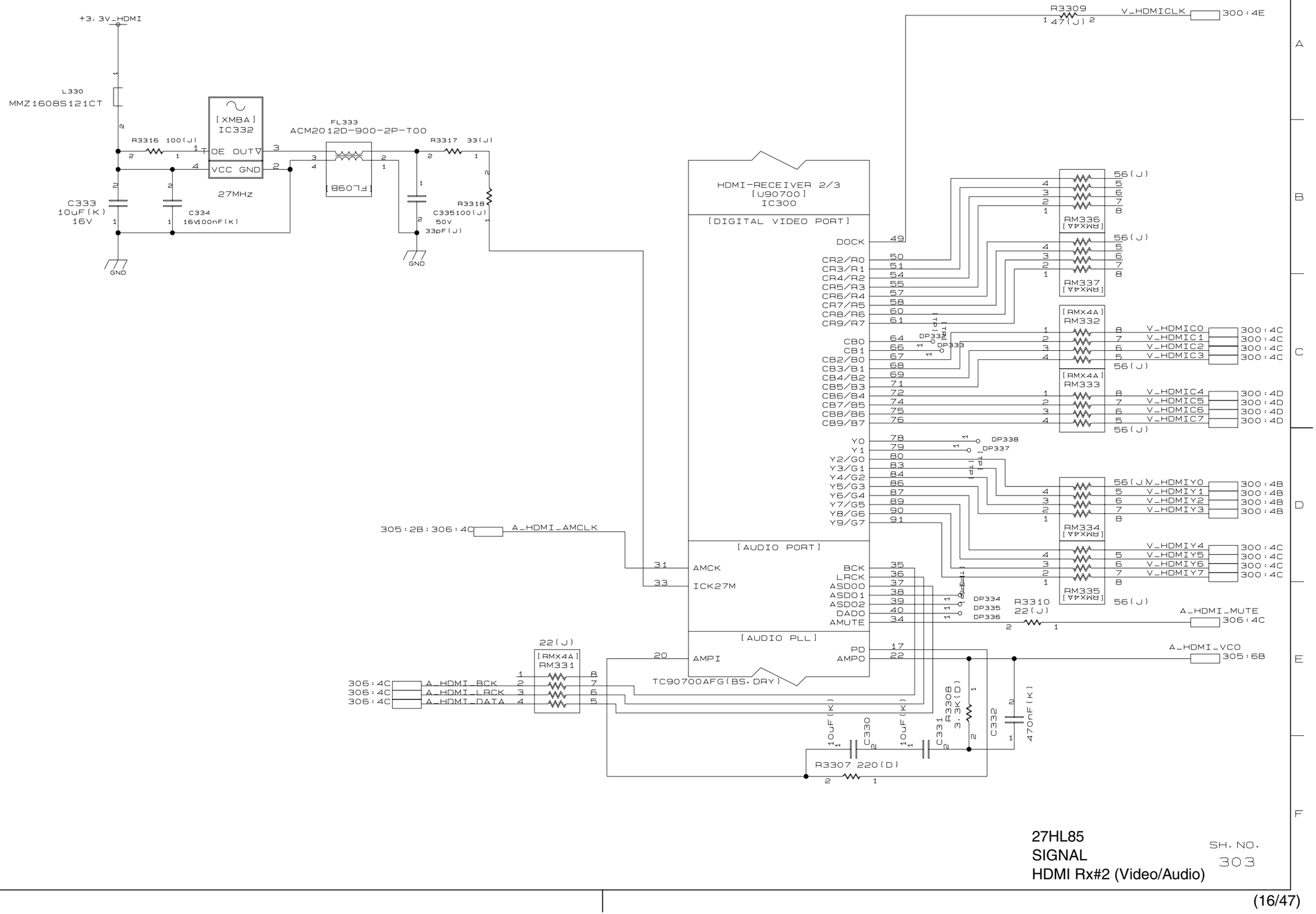
27HL85
SIGNAL
D IN B

SH. NO.
301



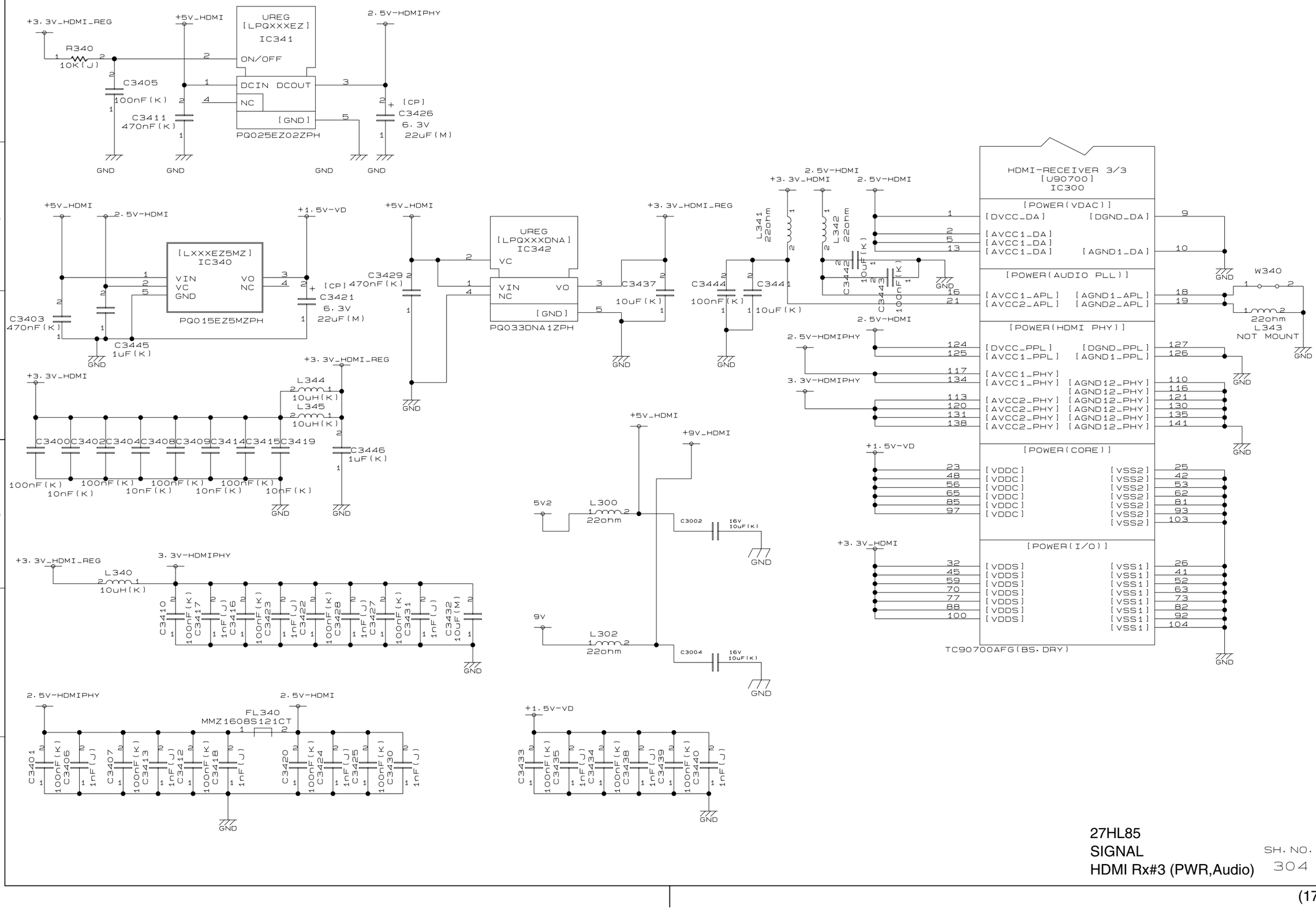
27HL85
SIGNAL
HDMI (Link,I2C)

SH. NO.
302



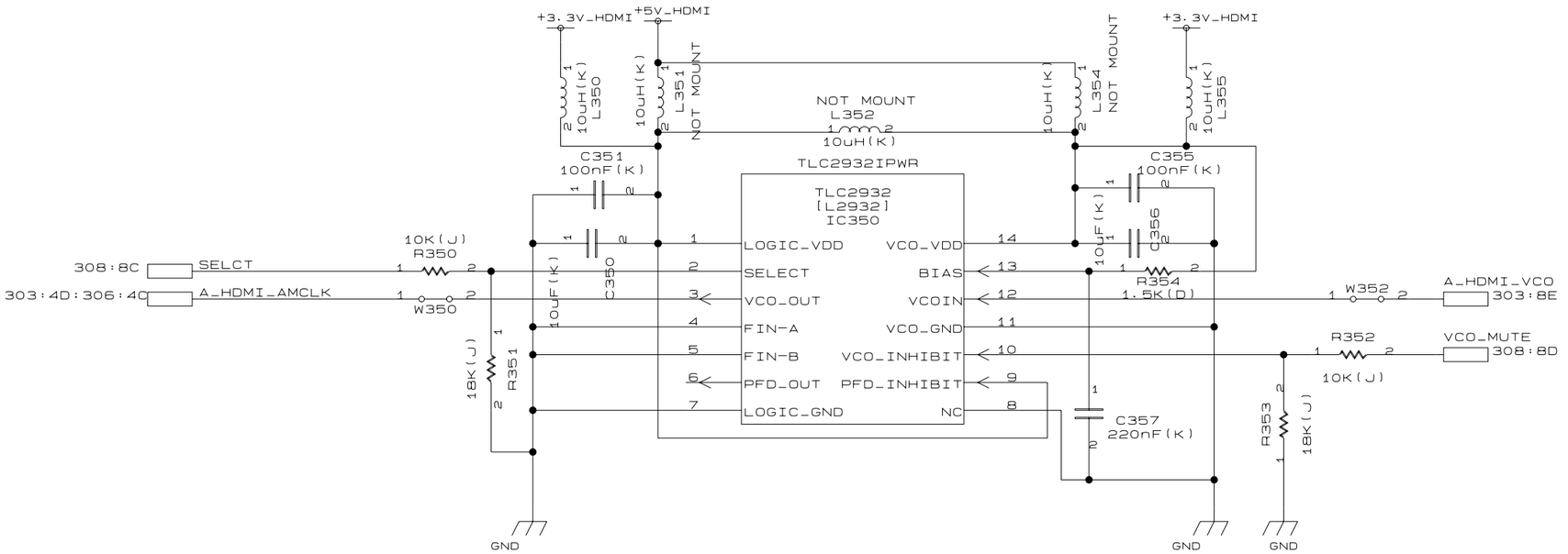
27HL85
SIGNAL
HDMI Rx#2 (Video/Audio)

SH. NO.
303



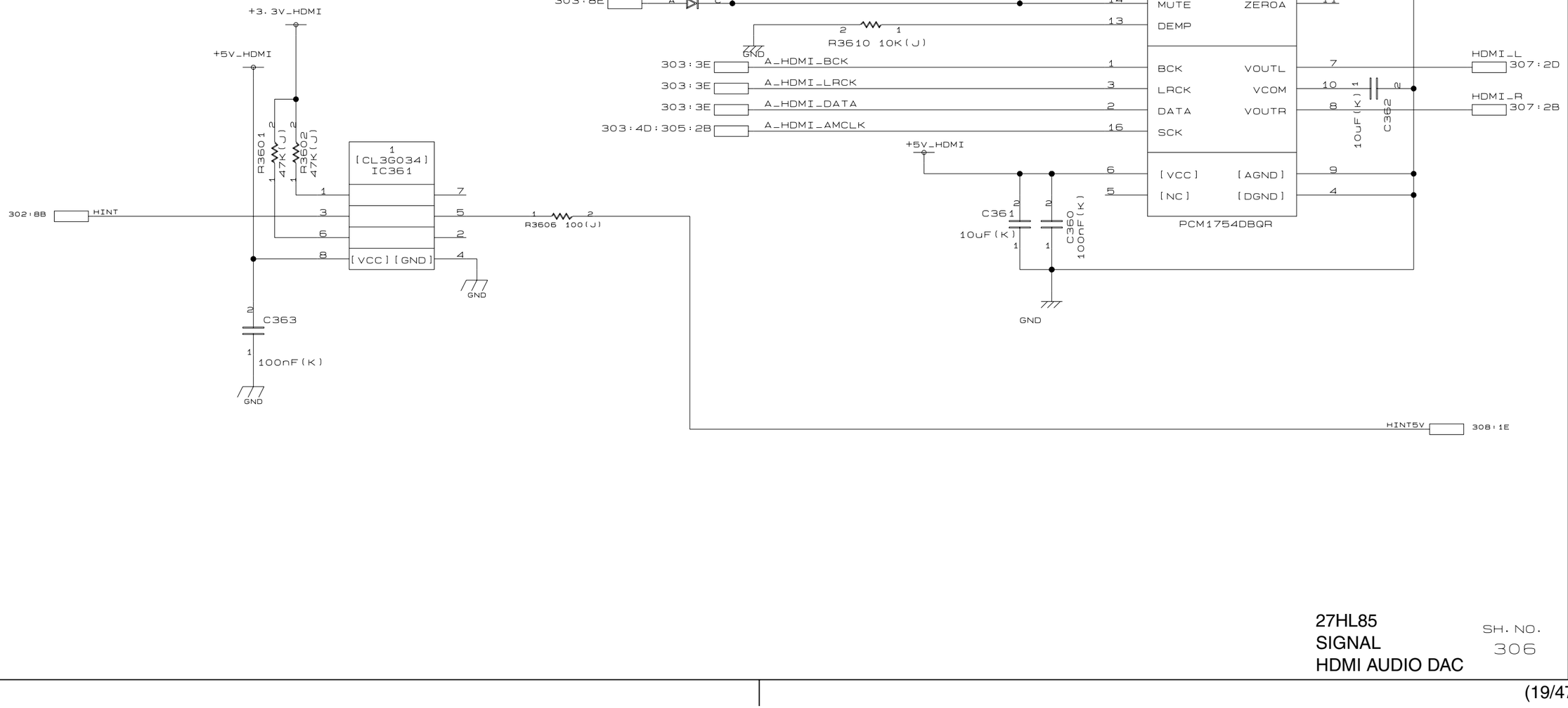
27HL85
SIGNAL
HDMI Rx#3 (PWR,Audio)

SH. NO.
304



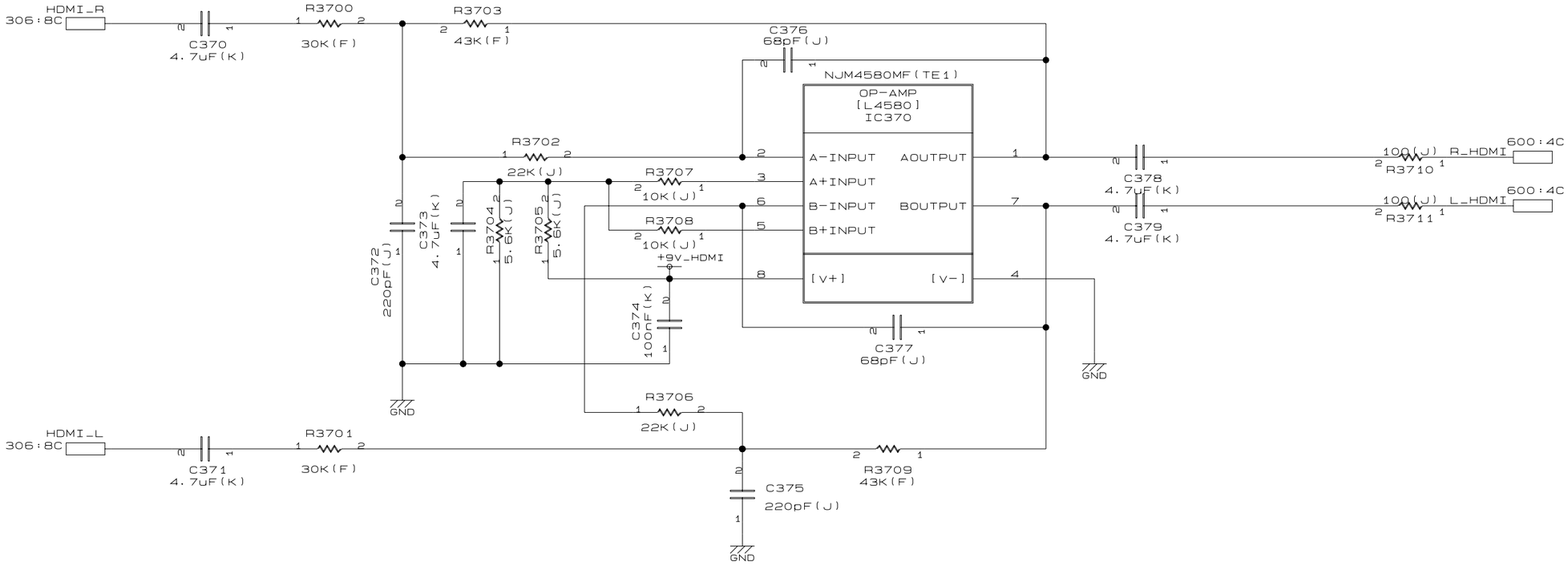
27HL85
SIGNAL
HDMI AUDIO PLL

SH. NO.
305



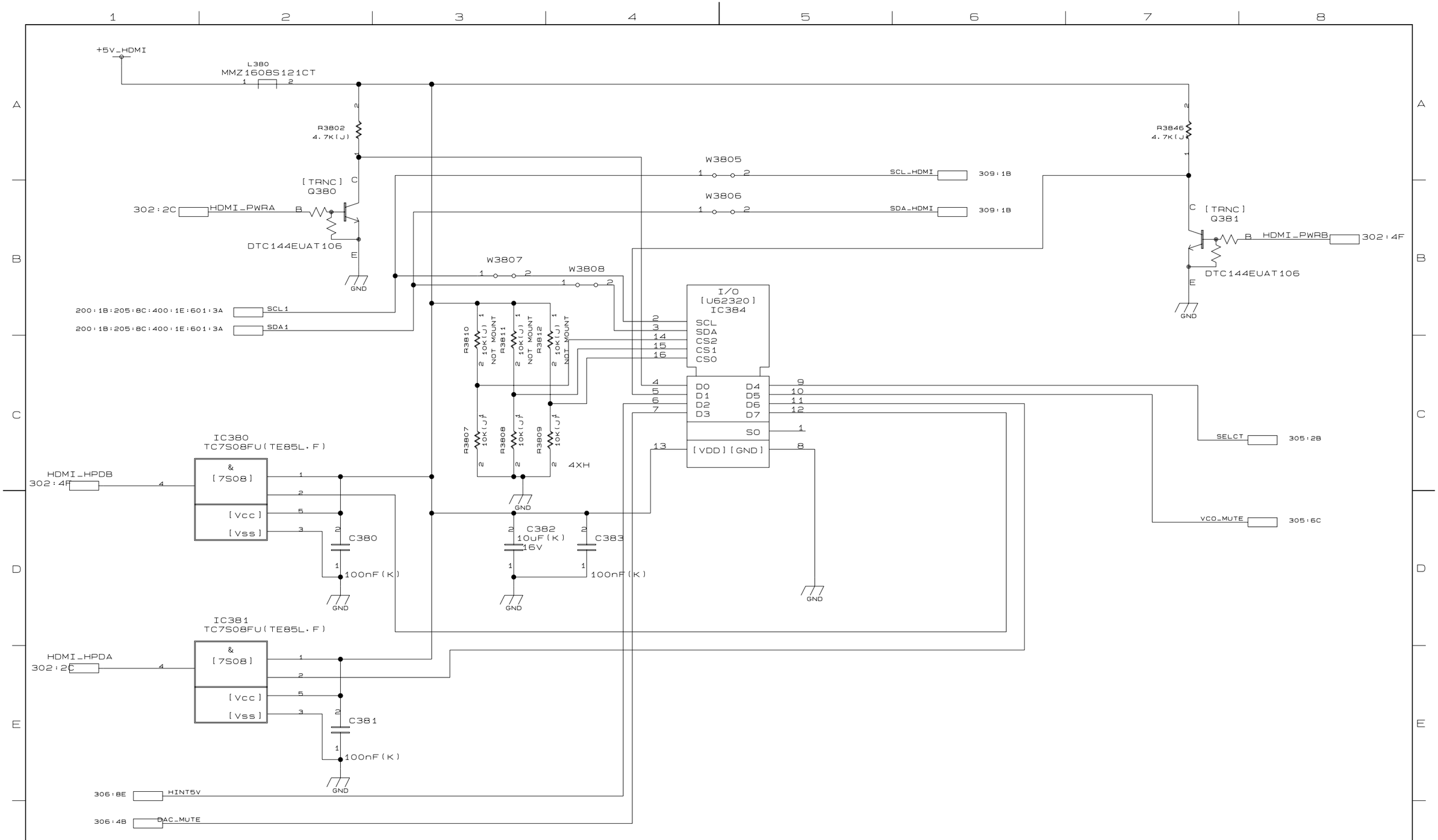
27HL85
SIGNAL
HDMI AUDIO DAC

SH. NO.
306



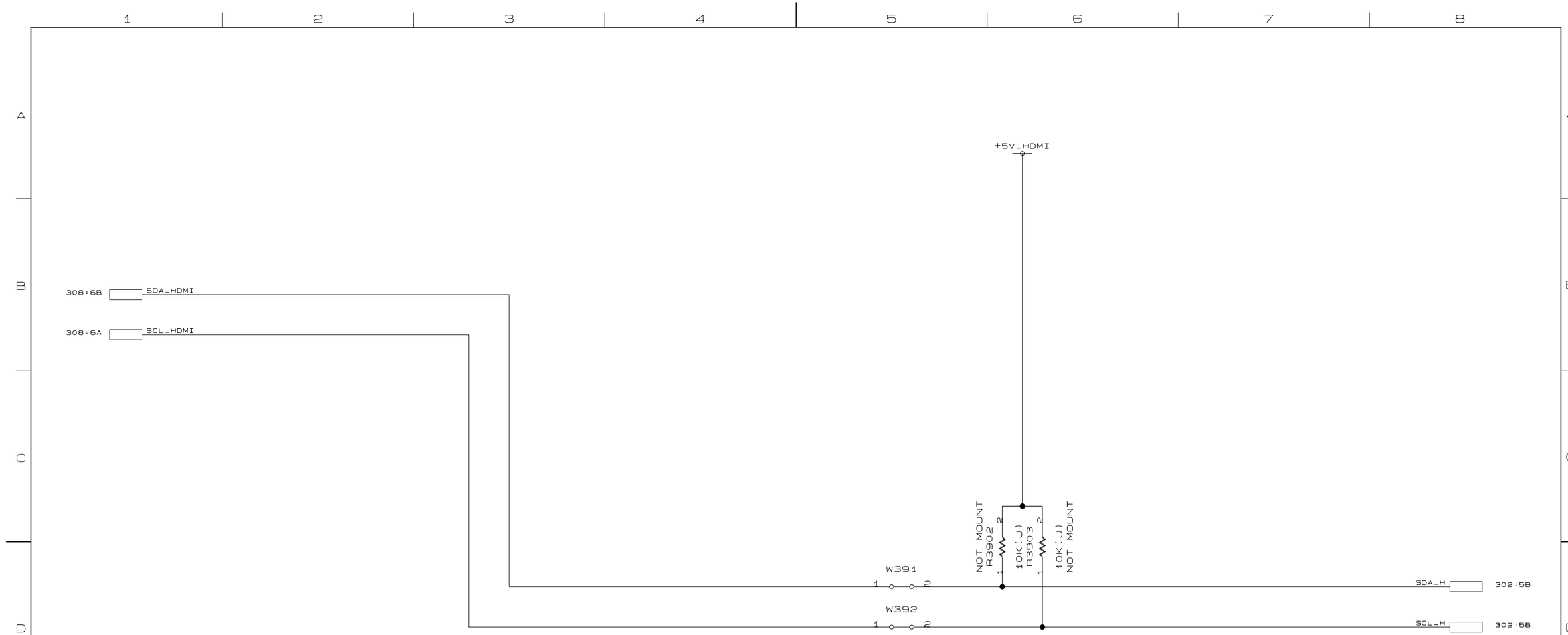
27HL85
SIGNAL
HDMI AUDIO OUT

SH. NO.
307



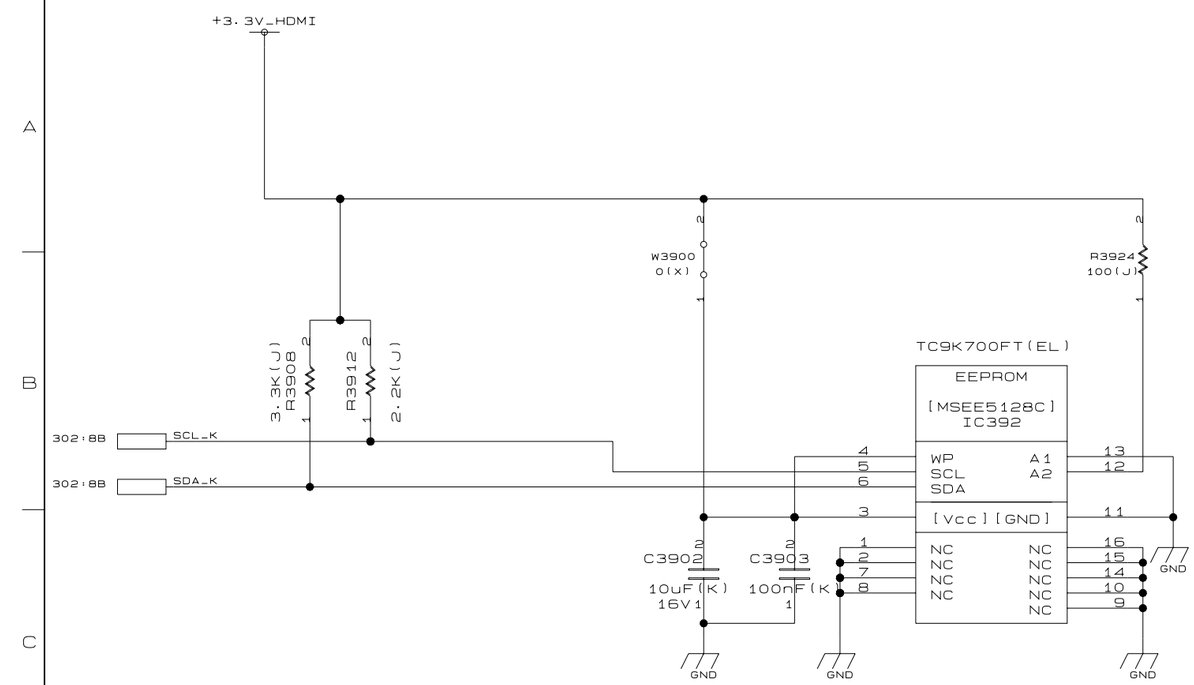
27HL85
SIGNAL
HDMI CONTROLLER

SH. NO.
308



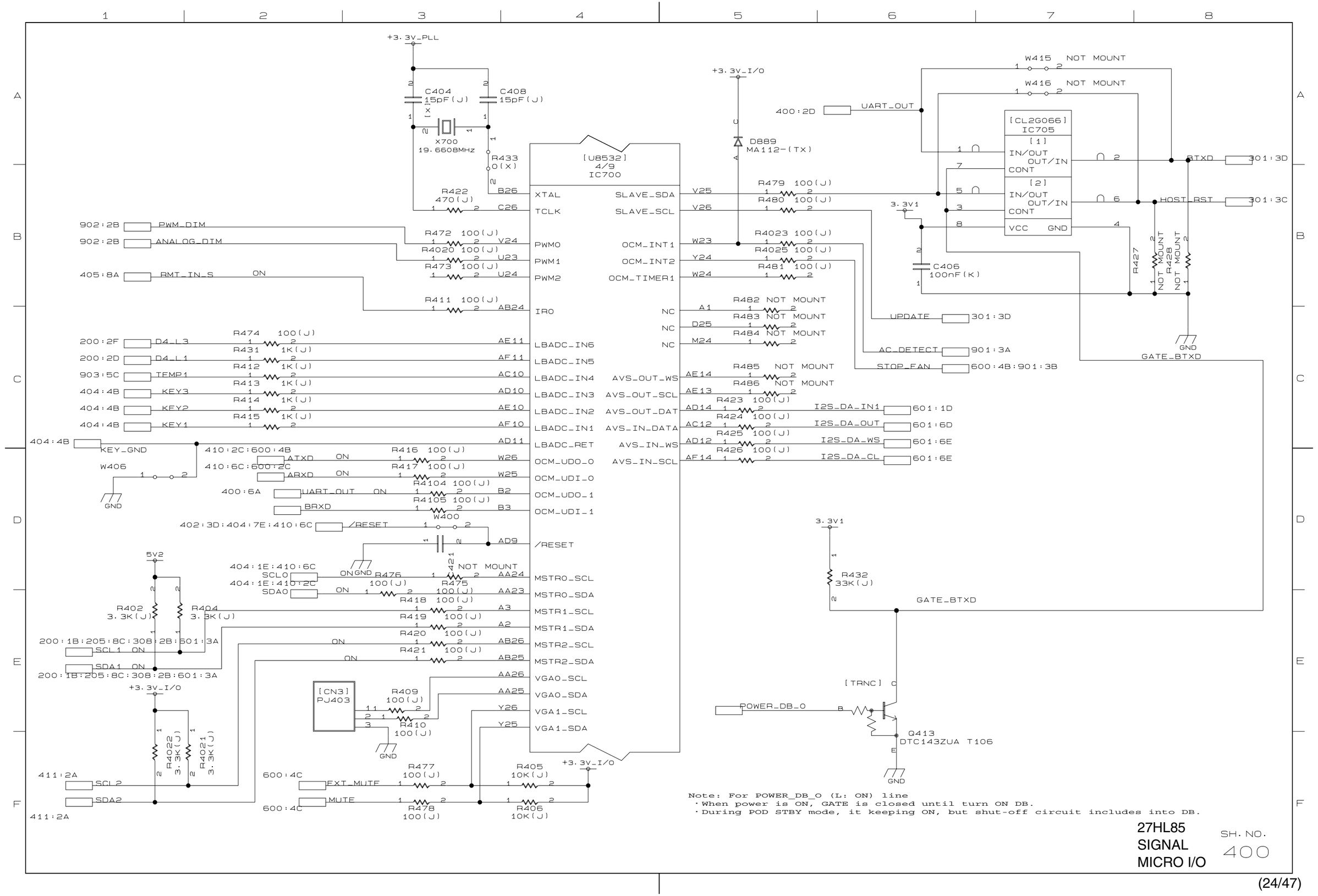
27HL85
SIGNAL
EEPROM1

SH. NO.
309



27HL85
SIGNAL
EEPROM2

SH. NO.
310


+3.3V_PLL
C404 15pF(J)
C408 15pF(J)
X700 19.6608MHz
R433 0(X)
R422 470(J)
B26
C26
XTAL
TCLK
[U8532] 4/9 IC700
SLAVE_SDA
SLAVE_SCL
902:2B PWM_DIM
902:2B ANALOG_DIM
405:8A RMT_IN_S
ON
R472 100(J)
R4020 100(J)
R473 100(J)
R411 100(J)
V24
U23
U24
AB24
PWM0
PWM1
PWM2
IR0
OCM_INT1
OCM_INT2
OCM_TIMER1
NC
NC
NC
200:2F D4_L3
200:2D D4_L1
903:5C TEMP1
404:4B KEY3
404:4B KEY2
404:4B KEY1
R474 100(J)
R431 1K(J)
R412 1K(J)
R413 1K(J)
R414 1K(J)
R415 1K(J)
AE11
AF11
AC10
AD10
AE10
AF10
LBADC_IN6
LBADC_IN5
LBADC_IN4
LBADC_IN3
LBADC_IN2
LBADC_IN1
AVS_OUT_WS
AVS_OUT_SCL
AVS_OUT_DAT
AVS_IN_DATA
404:4B KEY_GND
AD11
LBADC_RET
AVS_IN_WS
410:2C:600:4B ATXD
410:6C:600:2C ARXD
400:6A UART_OUT
BRXD
R416 100(J)
R417 100(J)
R4104 100(J)
R4105 100(J)
W26
W25
B2
B3
OCM_UDO_0
OCM_UDI_0
OCM_UDO_1
OCM_UDI_1
AVS_IN_SCL
W406
GND
W400
402:3D:404:7E:410:6C /RESET
AD9
/RESET
5V2
404:1E:410:6C SCL0
404:1E:410:2C SDA0
R476 100(J)
R475 100(J)
R421 NOT MOUNT
AA24
AA23
MSTR0_SCL
MSTR0_SDA
R402 3.3K(J)
R404 3.3K(J)
R418 100(J)
R419 100(J)
R420 100(J)
R421 100(J)
A3
A2
AB26
AB25
MSTR1_SCL
MSTR1_SDA
MSTR2_SCL
MSTR2_SDA
200:1B:205:8C:308:2B:501:3A SCL1
200:1B:205:8C:308:2B:601:3A SDA1
AA26
AA25
Y26
Y25
VGA0_SCL
VGA0_SDA
VGA1_SCL
VGA1_SDA
+3.3V_I/O
[CN3] PJ403
R409 100(J)
R410 100(J)
R4022 3.3K(J)
R4021 3.3K(J)
411:2A SCL2
411:2A SDA2
600:4C EXT_MUTE
600:4C MUTE
R477 100(J)
R478 100(J)
R405 10K(J)
R406 10K(J)
+3.3V_I/O
D889 MA112-(TX)
R479 100(J)
R480 100(J)
R4023 100(J)
R4025 100(J)
R481 100(J)
V25
V26
W23
Y24
R482 NOT MOUNT
R483 NOT MOUNT
R484 NOT MOUNT
A1
D25
M24
UPDATE 301:3D
AC_DETECT 901:3A
STOP_FAN 600:4B:901:3B
R485 NOT MOUNT
R486 NOT MOUNT
AE14
AE13
R423 100(J)
R424 100(J)
R425 100(J)
R426 100(J)
AD14
AC12
AD12
AF14
I2S_DA_IN1 601:1D
I2S_DA_OUT 601:6D
I2S_DA_WS 601:6E
I2S_DA_CL 601:6E
W415 NOT MOUNT
W416 NOT MOUNT
400:2D UART_OUT
[CL2G066] IC705
[1] IN/OUT OUT/IN CONT
[2] IN/OUT OUT/IN CONT
VCC GND
3.3V1
C406 100nF(K)
BTXD 301:3D
HOST_RST 301:3C
R427
R428 NOT MOUNT
GND
GATE_BTXD
3.3V1
R432 33K(J)
GATE_BTXD
[TRNC]
POWER_DB_O
Q413 DTC143ZUA T106
GND
Note: For POWER_DB_O (L: ON) line
・When power is ON, GATE is closed until turn ON DB.
・During POD STBY mode, it keeping ON, but shut-off circuit includes into DB.
27HL85
SIGNAL
MICRO I/O
SH. NO.
400

402:3A;409:1B

/OCM_RE, /OCM_WE, /ROM_CS, OCMADDR[0-20], OCMDATA[0-7]

[U8532]
7/9
IC700

R487 33(J)

R440 33(J)

OCMADDR[20]

OCMADDR[19]
OCMADDR[18]
OCMADDR[17]
OCMADDR[16]
RM400 [RMX4A] 33(J)

OCMADDR[15]
OCMADDR[14]
OCMADDR[13]
OCMADDR[12]
RM401 [RMX4A] 33(J)

OCMADDR[11]
OCMADDR[10]
OCMADDR[9]
OCMADDR[8]
RM402 [RMX4A] 33(J)

OCMADDR[7]
OCMADDR[6]
OCMADDR[5]
OCMADDR[4]
RM403 [RMX4A] 33(J)

OCMADDR[3]
OCMADDR[2]
OCMADDR[1]
OCMADDR[0]
RM404 [RMX4A] 33(J)

AF15	OCMADDR21	PBIAS	U26
AE15	OCMADDR20	PPWR	U25
AD15	OCMADDR19		
AC15	OCMADDR18	GPIO47	R25
AF16	OCMADDR17	GPIO46	R24
AE16	OCMADDR16	GPIO45	R23
AD16	OCMADDR15	GPIO44	T26
AF17	OCMADDR14	JTAG_BS_TDO	T25
AE17	OCMADDR13	JTAG_BS_TMS	T24
AD17	OCMADDR12		
AC17	OCMADDR11	OCMCS2n	AC24
AF18	OCMADDR10	OCMCS1n	AD26
AE18	OCMADDR9	OCMCS0n	AD25
AD18	OCMADDR8	ROMCSn	AD24
AF19	OCMADDR7	OCMWEn	AC26
AE19	OCMADDR6	OCMREn	AC25
AD19	OCMADDR5		
AC19	OCMADDR4	OCMDATA0	AE26
AF20	OCMADDR3	OCMDATA1	AE25
AE20	OCMADDR2	OCMDATA2	AE24
AD20	OCMADDR1	OCMDATA3	AF26
AF21	OCMADDR0	OCMDATA4	AF25
		OCMDATA5	AF24
		OCMDATA6	AC23
		OCMDATA7	AD23
		OCMDATA8	AE23
		OCMDATA9	AF23
		OCMDATA10	AD22
		OCMDATA11	AE22
		OCMDATA12	AF22
		OCMDATA13	AC21
		OCMDATA14	AD21
		OCMDATA15	AE21

R441 100(J) — BL_ONOFF — 902:1D
R442 100(J) — POWER_LCD — 901:3B
R443 100(J) — D4_SW — 200:4D
R444 100(J) NOT MOUNT — STBY_RST — 405:3E
R445 100(J) — HDMI_RST — 302:4A
R446 100(J) — POWER_KEY_S — 405:8A
R447 100(J) — GP1 — 200:1C
R448 100(J) — BS_TV_MUTE — 600:4C
+3.3V_I/O — R40710K(J)
R488 100(J) — USB — 300:1D
R489 100(J) — MAIN_SYNC_DET — 403:8E
R449 1K(J) — D4_L2 — 200:2E

[RMX4A] RM407 33(J) — /ROM_CS, /OCM_WE, /OCM_RE

[RMX4A] RM405 33(J) — OCMDATA[0], OCMDATA[1], OCMDATA[2], OCMDATA[3]

[RMX4A] RM406 33(J) — OCMDATA[4], OCMDATA[5], OCMDATA[6], OCMDATA[7]

R4029 100(J) — SW_DVI1 — 600:4B
R4030 100(J) — AV/S_DET2 — 200:4F
R4031 100(J) NOT MOUNT (AV/S DET3)
R4032 33K(J)
R4033 100(J) — SW_DVI2 — 600:4B
R4034 100(J) — LED3 — 404:8B
R4035 100(J) — LED4 — 404:8B
R4036 100(J) — 50HZ_60HZ — 903:1A

+3.3V_I/O
R4026 33K(J)
[TRP] Q404 2SA1586-Y(TE85L,F)
R4027 1K(J)
R4028 220K(J)
C478 470pF(J)
POWER_SIG_DET — 300:4E:901:3B
GND

27HL85
SIGNAL
OCM MEMORY I/F

SH. NO. 401

401:1A;409:1B /OCM_RE. /OCM_WE. /ROM_CS. OCMADDR[0-20]. OCMDATA[0-7]

MX26LV800TTC-70G

[MFLV800AT]
IC404

OCMADDR[1] 25
OCMADDR[2] 24
OCMADDR[3] 23
OCMADDR[4] 22
OCMADDR[5] 21
OCMADDR[6] 20
OCMADDR[7] 19
OCMADDR[8] 18
OCMADDR[9] 8
OCMADDR[10] 7
OCMADDR[11] 6
OCMADDR[12] 5
OCMADDR[13] 4
OCMADDR[14] 3
OCMADDR[15] 2
OCMADDR[16] 1
OCMADDR[17] 48
OCMADDR[18] 17
OCMADDR[19] 16

A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17 A18

/ROM_CS 26 → CE
/OCM_RE 28 → OE
/OCM_WE 11 → WE
47 → BYTE
12 → RESET

RY/BY → 15

GND

400:3D:404:7E:410:6C /RESET 1 2 W411 MOUNT

1 R4086 2 NOT MOUNT

2 C464 NOT MOUNT 1

GND

+3.3V_I/O

OCMADDR[20] 13 → NC NC

37 → VCC

VSS 27
VSS 46

2 C410 10uF(K) 6.3V 1

2 C411 100nF(K) 16V 1

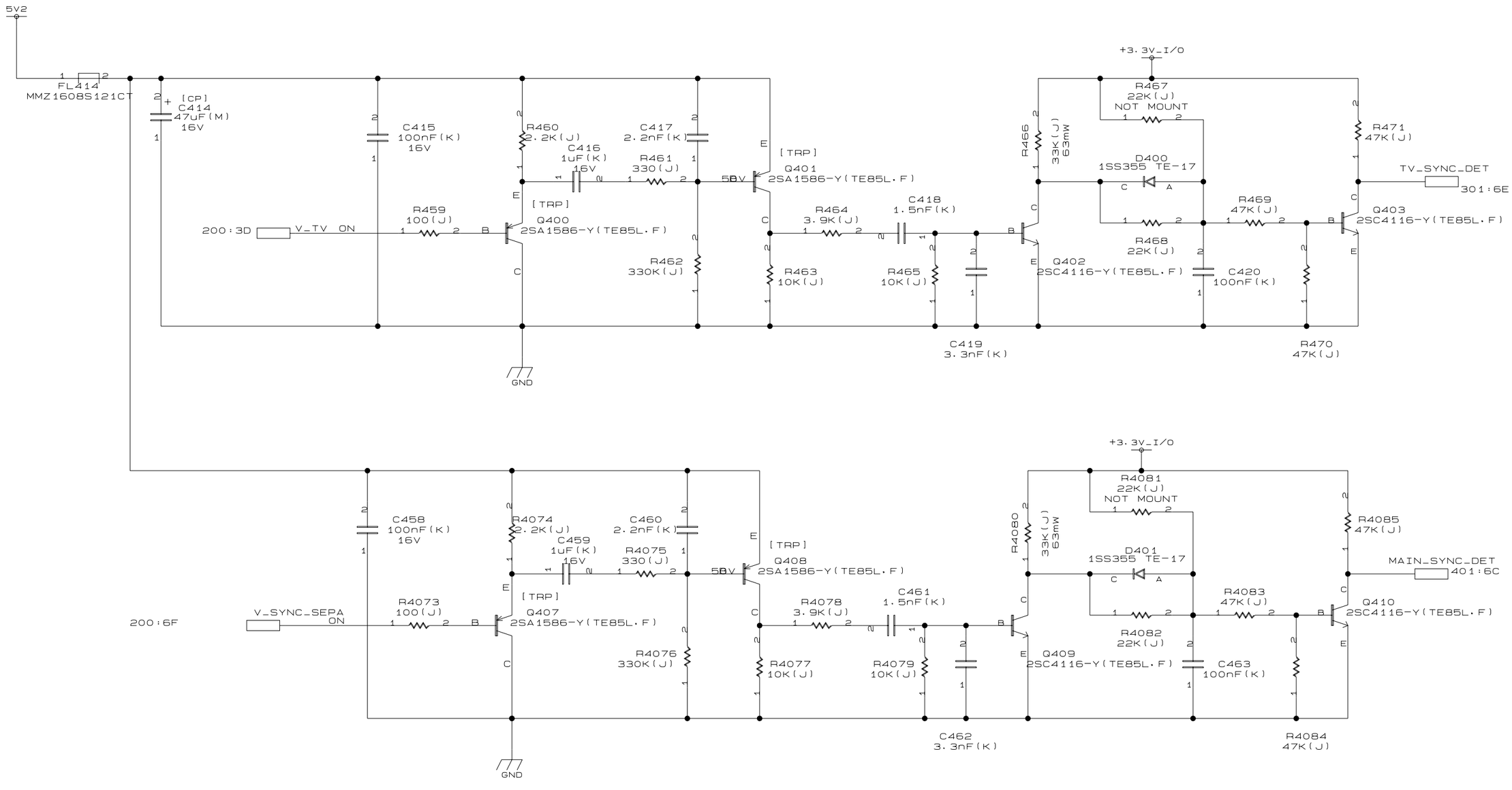
GND

DQ0 29 OCMDATA[0]
DQ1 31 OCMDATA[1]
DQ2 33 OCMDATA[2]
DQ3 35 OCMDATA[3]
DQ4 38 OCMDATA[4]
DQ5 40 OCMDATA[5]
DQ6 42 OCMDATA[6]
DQ7 44 OCMDATA[7]
DQ8 30
DQ9 32
DQ10 34
DQ11 36
DQ12 39
DQ13 41
DQ14 43
DQ15/A-1 45 OCMADDR[0]

NC 10
NC 14

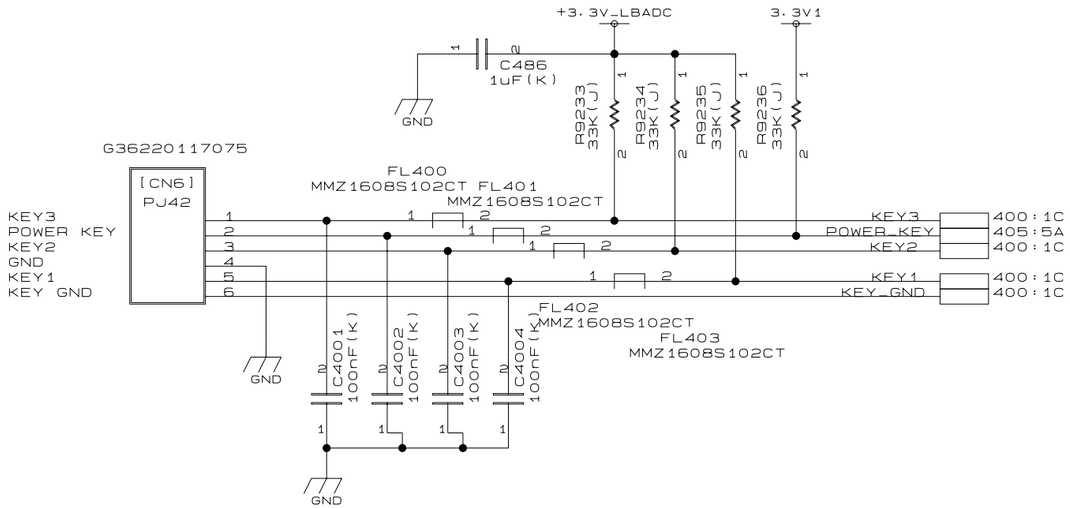
27HL85
SIGNAL
FLASH MEMORY

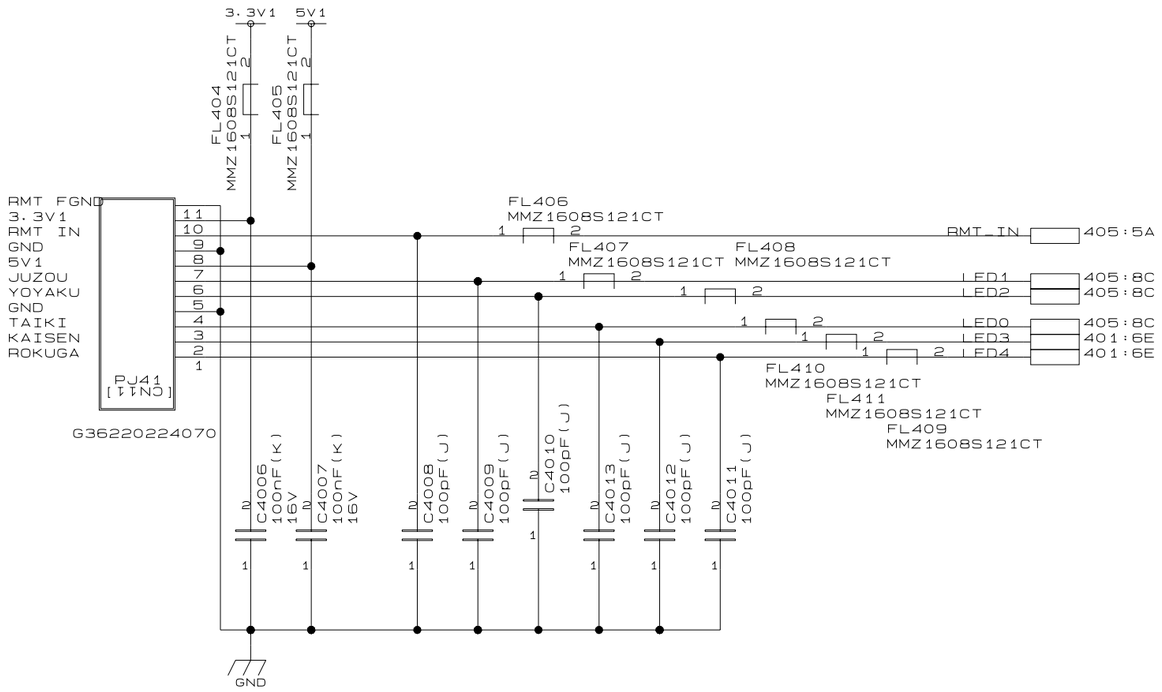
SH. NO.
402

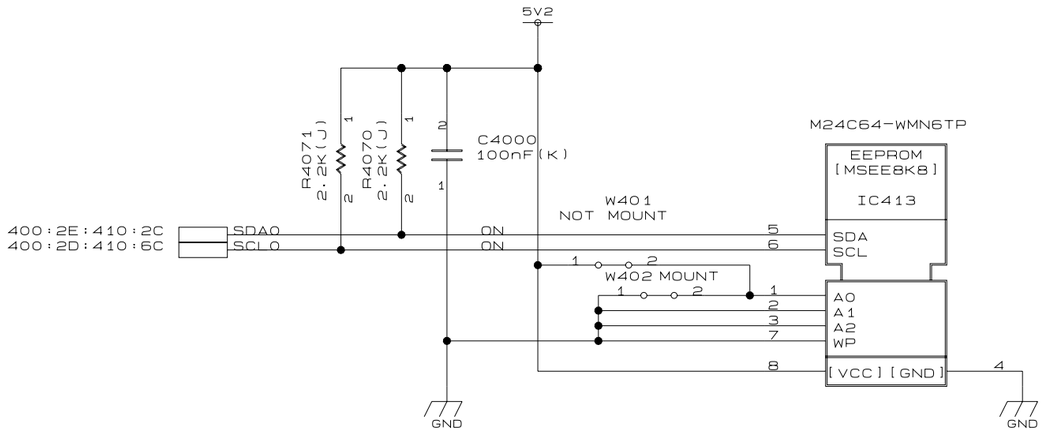


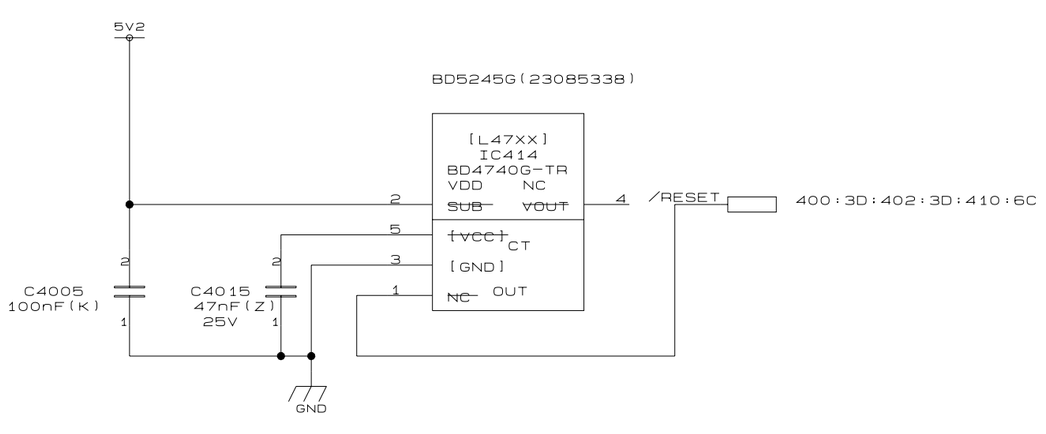
27HL85
SIGNAL
SYNC SEPA

SH. NO.
403



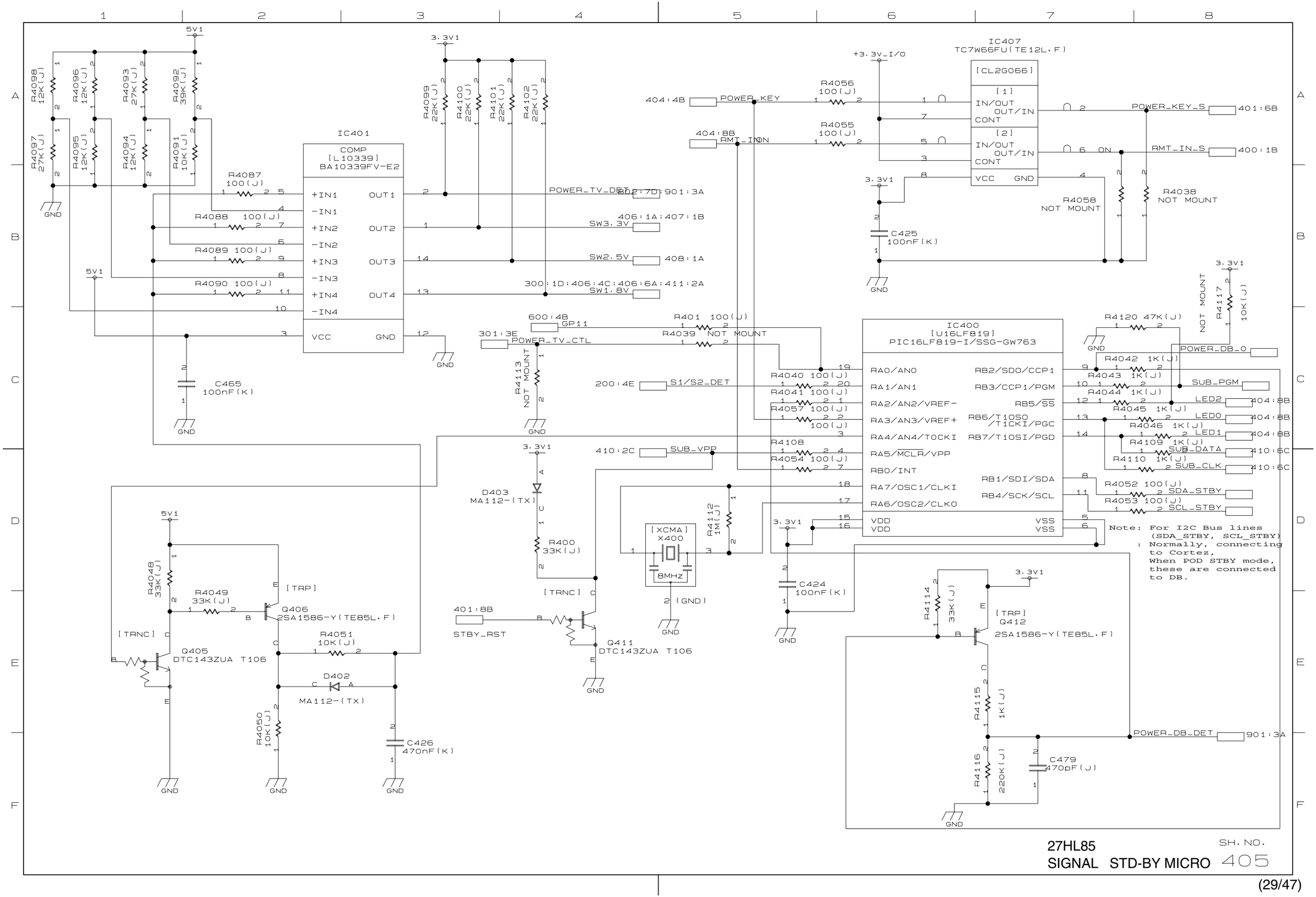






27HL85
SIGNAL
E2P OTHER

SH. NO.
404



27HL85
SIGNAL STD-BY MICRO

SH. NO. 405

405:4B:407:1B

SW3.3V
R4059
100(J)
C471
47pF(J)
GND
IC402
PQ070XH02ZPH
UREG
[LPQ070XH]
3.3V
VC
VADJ
VIN
VO
[GND]
5V2
C428
1uF(K)
GND
+3.3V
C427
47uF(M)
[CP]
C487
1uF(K)
6.3V
GND
R4061
1.5K(F)
R4062
150(F)
R4060
1K(F)
GND
FL423
MPZ2012S221AT
+3.3V_I/O
C451
100nF(K)
16V
GND

300:1D:405:4B:406:4C:411:2A
SW1.8V
R4072
100(J)
BH18LB1WG-TR
UREG
[LBHXX]
IC412
STBY
NC
VIN
VOUT
[GND]
5V2
C452
100nF(K)
C472
100pF(J)
GND
FL427
MPZ1608S221AT
+1.8V_ADC
C454
1uF(K)
GND

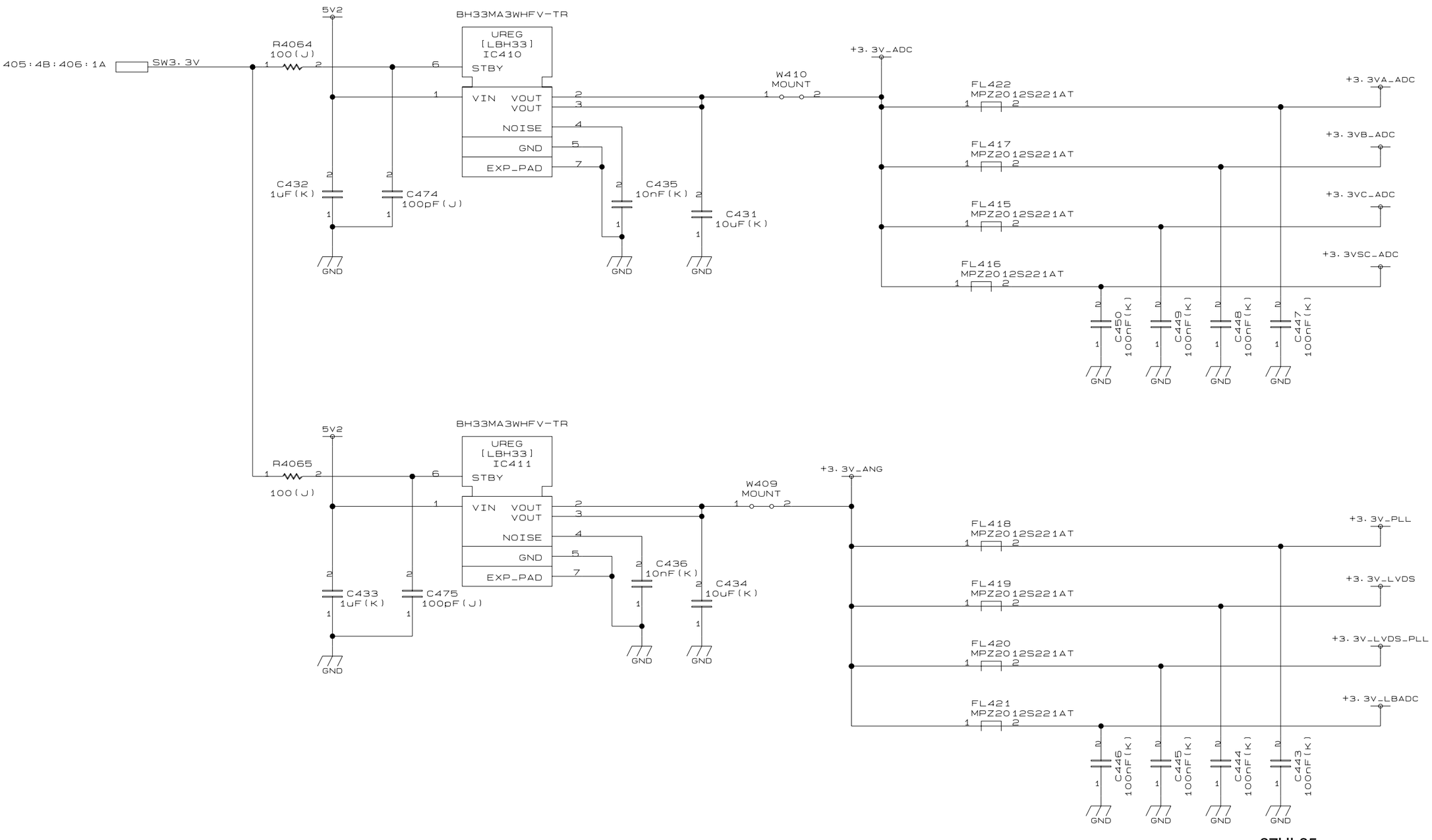
NOT MOUNT
FL428
MPZ1608S221AT

300:1D:405:4B:406:6A:411:2A
SW1.8V
R4063
100(J)
C473
100pF(J)
GND
PQ018EH02ZPH
UREG
[LPQXXXEH]
IC403
1.8V
VC
NC
VIN
VO
[GND]
+3.3V
C429
1uF(K)
GND
[CP]
C453
147uF(M)
GND

FL425
MPZ1608S221AT
+1.8V_DLL
FL426
MPZ1608S221AT
+1.8V_PLL
FL424
MPZ1608S221AT
+1.8V_CORE
C430
100nF(K)
C456
100nF(K)
C455
100nF(K)
GND

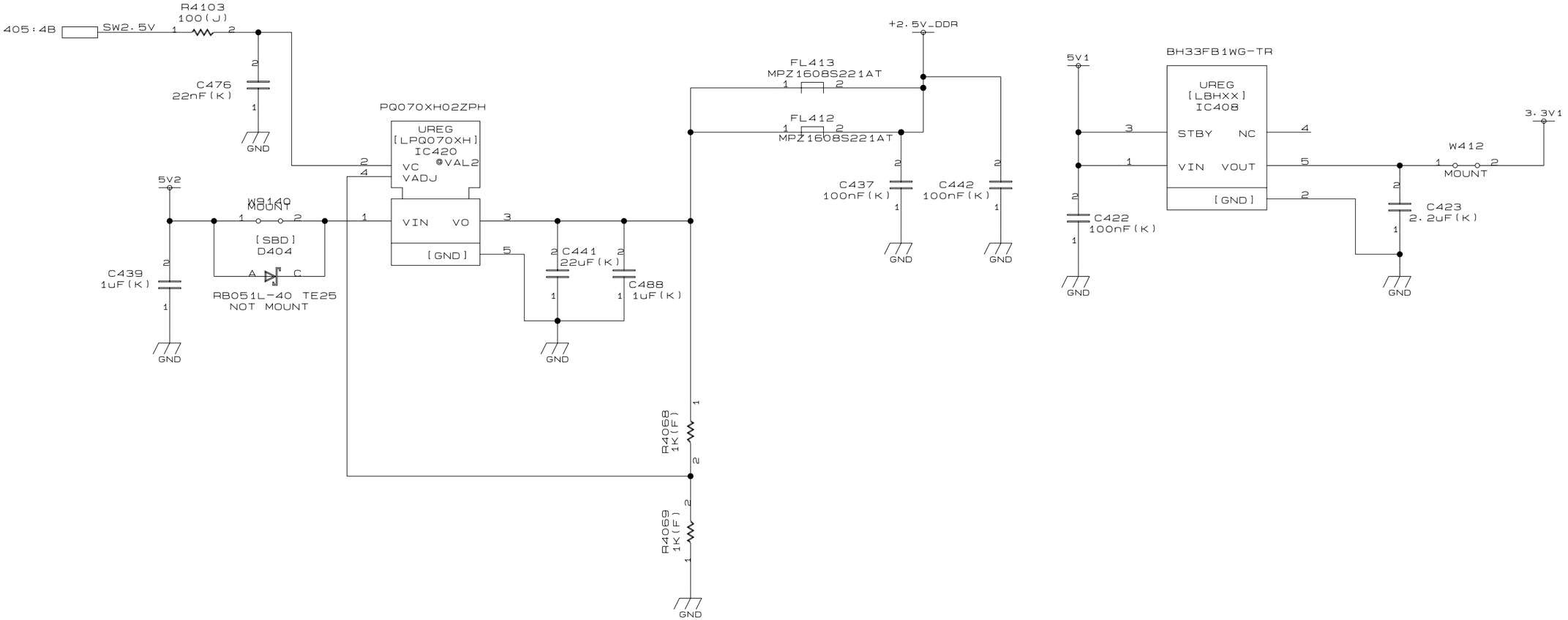
27HL85
SIGNAL
CORTEZ REG 1

SH. NO.
406



27HL85
SIGNAL
CORTEZ REG 2

SH. NO.
407

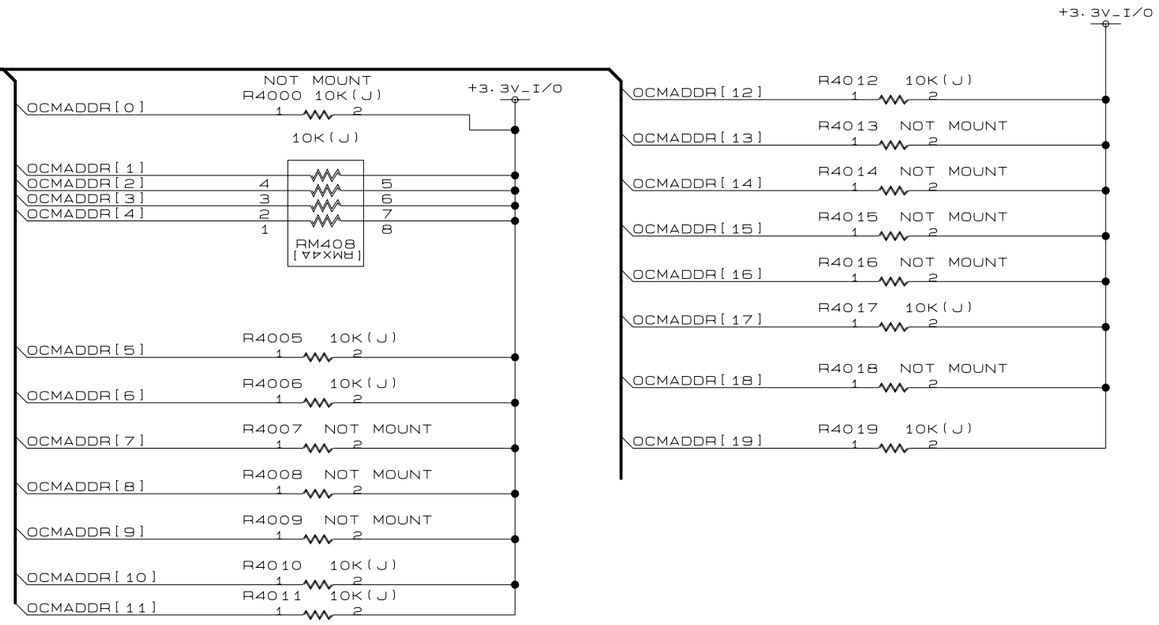


27HL85
SIGNAL
CORTEZ REG 3

SH. NO.
408

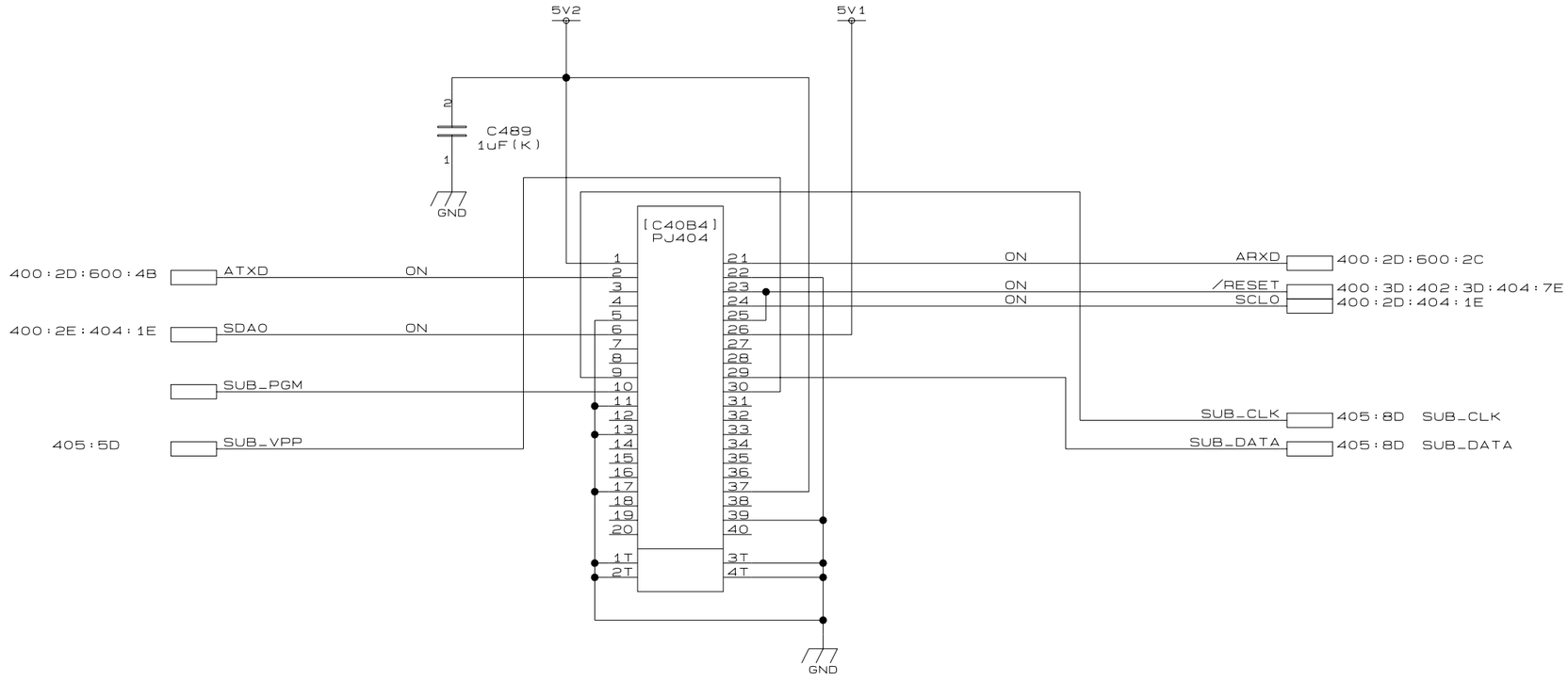
401:1A:402:3A

OCMADDR[0-19]



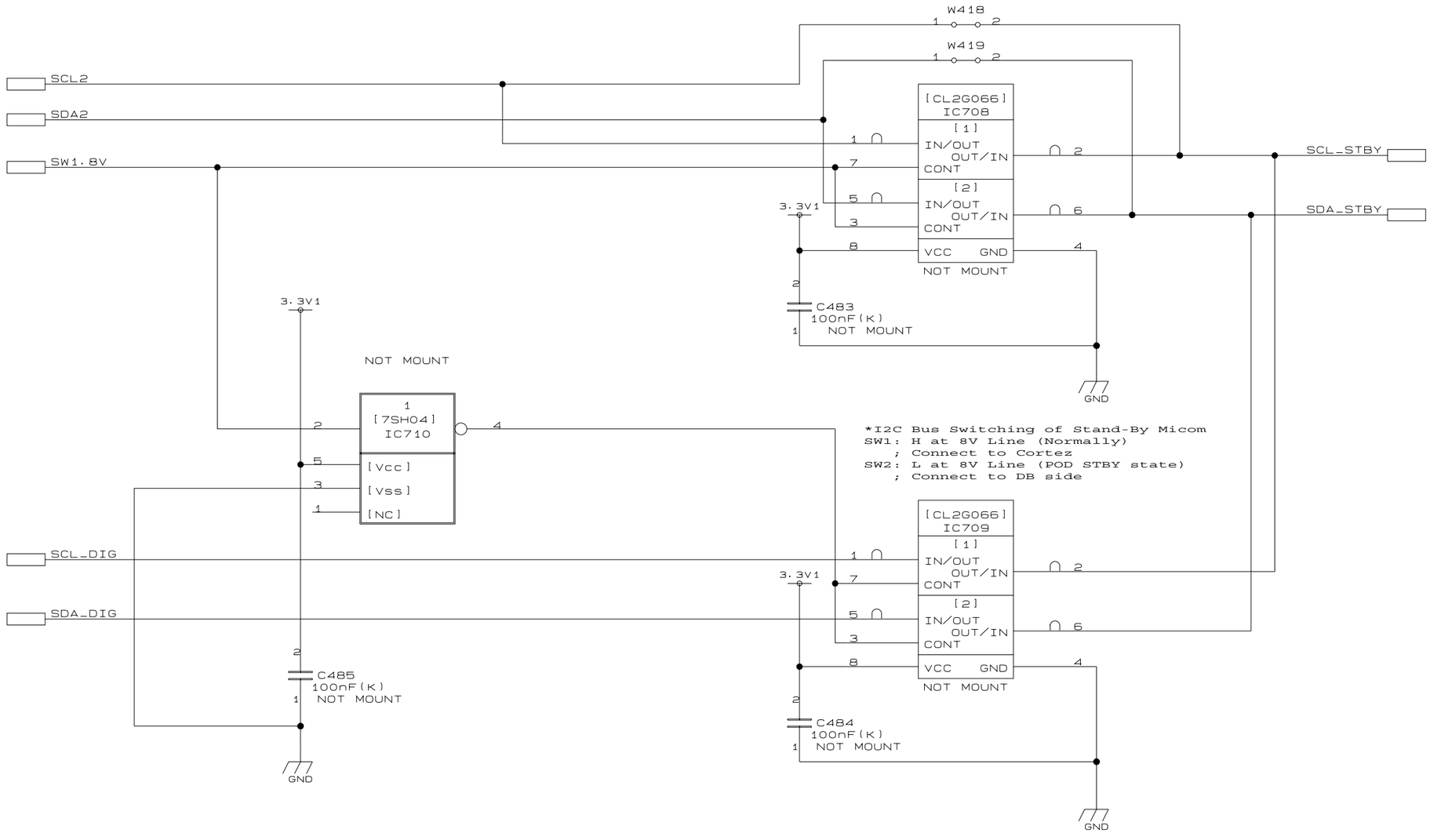
27HL85
SIGNAL
BOOT CONFIG

SH. NO.
409



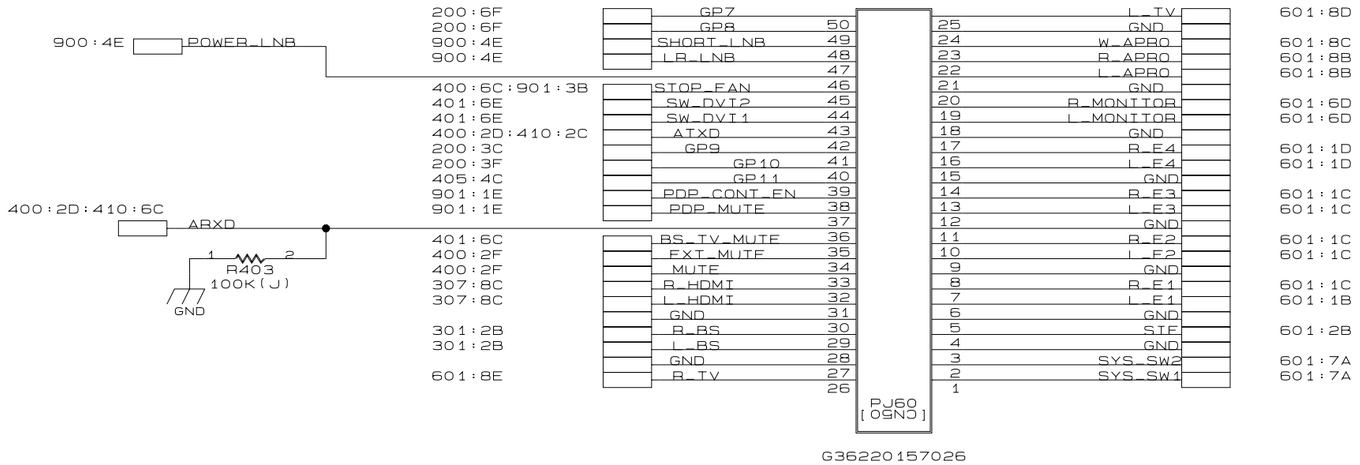
27HL85
SIGNAL
SERVICE CONNECTOR

SH. NO.
410



27HL85
SIGNAL
I2C Switch

SH. NO.
411



G36220157026

27HL85
SIGNAL
AUDIO (1/2)

SH. NO.
600

MULTI SOUND PRO.
[U44X0G]
IC600

I2C_DA
I2C_CL
ADR_SEL
STANDBYQ
RESETQ
TESTEN
D_CTR_I/O_0
D_CTR_I/O_1
TP
ANA_IN1+
ANA_IN-
ANA_IN2+
MONO_IN
SC1_IN_L
SC1_IN_R
ASG
SC2_IN_L
SC2_IN_R
ASG
SC3_IN_L
SC3_IN_R
ASG
SC4_IN_L
SC4_IN_R
XTAL_IN
XTAL_OUT
NC
NC
DACM_SUB
DACM_L
DACM_R
DACA_L
DACA_R
SC1_OUT_L
SC1_OUT_R
SC2_OUT_L
SC2_OUT_R
VREFTOP
AGNDC
VREF1
VREF2
CAPL_M
CAPL_A
AUD_CL_OUT
NC
NC
NC
NC
I2S_DA_IN1
I2S_DA_IN2/3
I2S_WS3
I2S_CL3
I2S_DA_OUT
I2S_WS
I2S_CL
I2S_DA_IN3/ADR_DA
I2S_DA_IN4/ADR_WS
ADR_CL
[AHVSUP]
[AVSUP]
[DVSUP]
[AHVSS]
[AVSS]
[DVSS]

[L47XX]
IC601
SUB
VOUT
[VCC]
[GND]
NC

[L4558]
IC602
[L4558]
IC603
+IN1
-IN1
+IN2
-IN2
OUT1
OUT2
[VCC]
[VEE]

Q600
Q630
2SC2712-Y(TE85R,F)

X600
18.432MHz

SDA1
SCL1
5V2
9V
MSP_RESET
GND
SIF

R601 4.7K(J)
R602 100(J)
R603 100(J)
R625 100(J)
R626 100(J)
R627 4.7K(J)
R628 4.7K(J)
R629 100(J)
R612 1K(J)
R614 2.2K(J)
R615 68K(J)
R616 3.3K(J)
R617 100(J)
R618 4.7K(J)
R619 18K(J)
R620 47K(J)
R622 4.7K(J)
R623 18K(J)
R624 47K(J)
R630 100(J)
R631 100(J)
R634 100(J)
R635 100(J)
R636 100(J)
R637 100(J)
R638 100(J)
R639 NOT MOUNT
R640 NOT MOUNT
R641 NOT MOUNT
R642 3.3K(J)
R643 NOT MOUNT
R645 NOT MOUNT
R646 NOT MOUNT
R647 NOT MOUNT

C602 100nF(K)
C603 10nF(K)
C622 56pF(J)
C624 56pF(J)
C626 56pF(J)
C627 5pF(D)
C633 10nF(K)
C634 10uF(M)
C635 10uF(M)
C636 100pF(J)
C637 10uF(K)
C638 100pF(J)
C639 10uF(K)
C640 22uF(K)
C641 22uF(K)
C642 47uF(M)
C644 NOT MOUNT
C645 NOT MOUNT
C6092.2uF(K)
C6082.2uF(K)
C6072.2uF(K)
C6052.2uF(K)
C6042.2uF(K)
C6012.2uF(K)
C6112.2uF(K)
C6102.2uF(K)
C611 100nF(K)
C612 10uF(K)
C613 10pF(C)
C614 100nF(K)
C615 100nF(K)
C616 3.3uF(M)
C617 10uF(M)
C618 1.5nF(K)
C619 470pF(J)
C620 10uF(M)
C621 22uF(K)
C625 10uF(M)
C628 470pF(J)
C629 220pF(J)
C630 10uF(M)
C631 1.5nF(K)
C632 100nF(K)

D600 [ZD]

L601
L602

W600
W601
W602
W603
W604
W605
W606
W607
W608
W609
W_APRO
L_APRO
R_APRO
L_TV
R_TV
L_MPEG
R_MPEG

L_E1
R_E1
L_E2
R_E2
L_E3
R_E3
L_DB
L_E4
R_DB
R_E4

L_MONITOR
R_MONITOR

I2S_DA_OUT
I2S_DA_WS
I2S_DA_CL

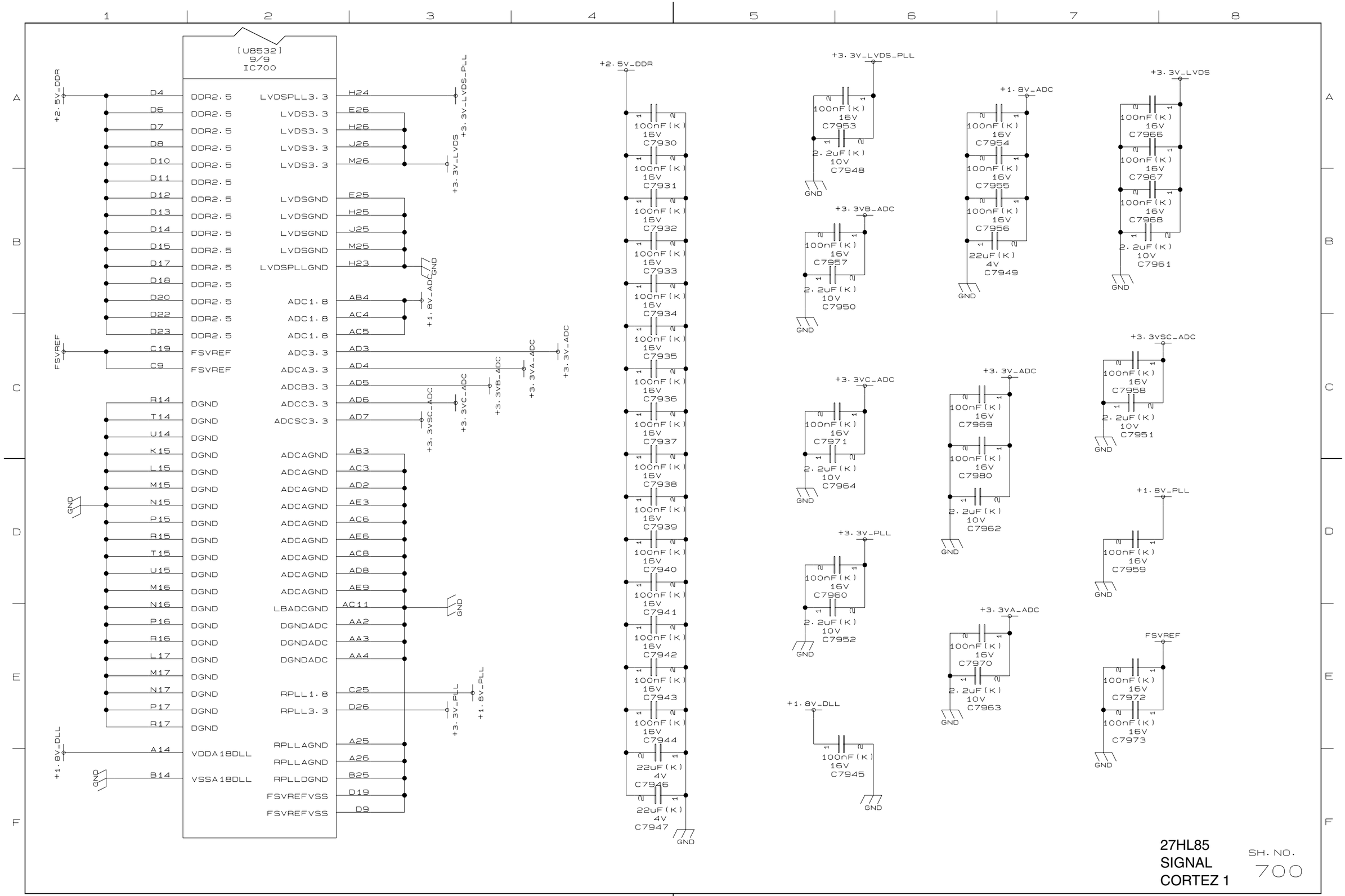
SYS_SW1
SYS_SW2

600:5C
600:5B
301:2B
400:6C
400:6D
600:4C

[CP]
[X]

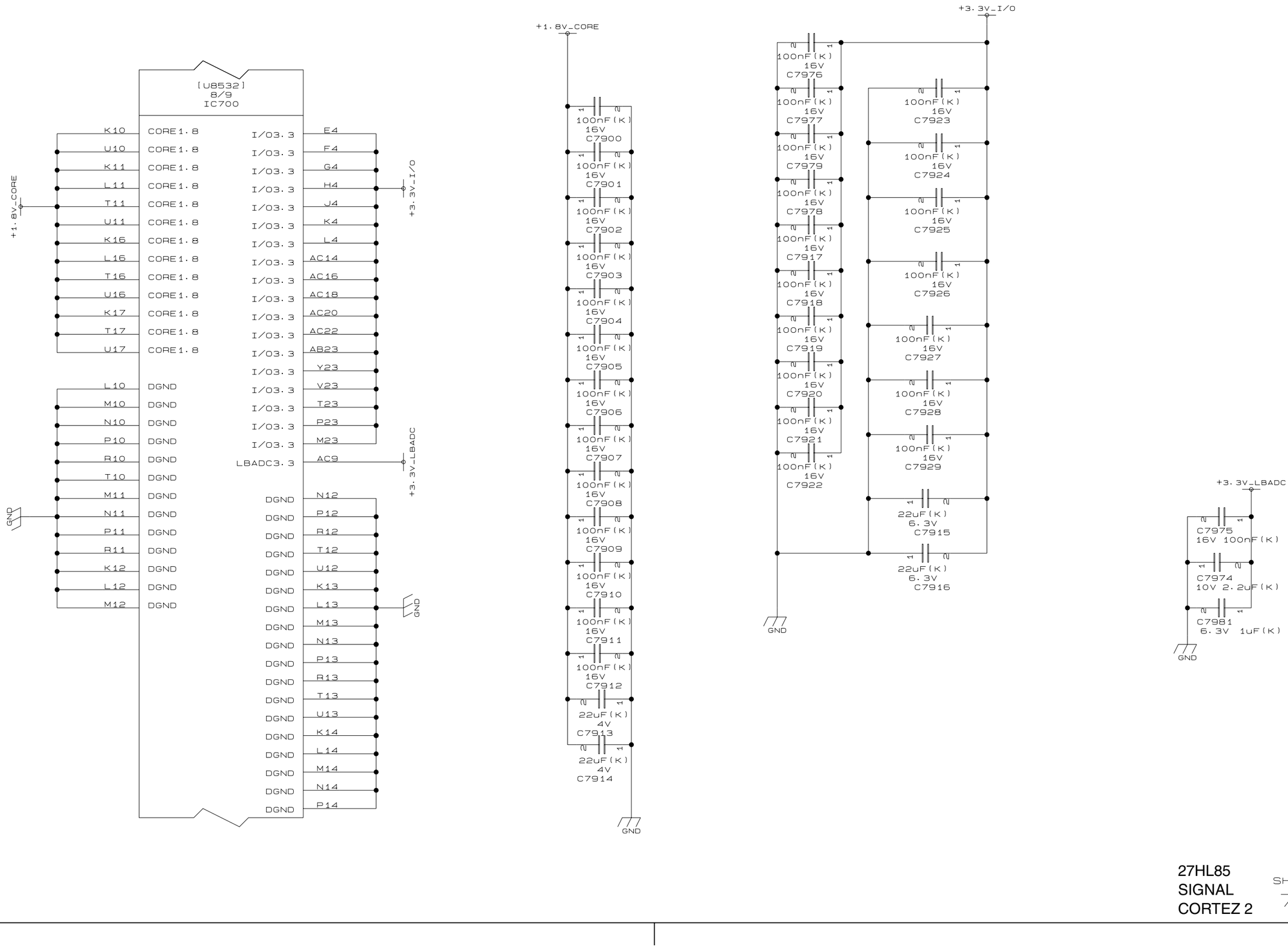
27HL85
SIGNAL
AUDIO (2/2)

SH. NO.
601



27HL85
SIGNAL
CORTEZ 1

SH. NO.
700



27HL85
SIGNAL
CORTEZ 2

SH. NO.
701

/FSCAS. /FSCS[0-1]. /FSRAS. /FSWE. FSADDR[0-12]. FSBKSEL[0-1]. FSCKE. FSCLK+. FSCLK-. FSDATA[0-31]. FSDQM[0-3]. FSDQS[0-3]

[U8532]
5/9
IC700

FSDATA[15] FSDATA[14] FSDATA[13] FSDATA[12] — RM700 [RMX4A] 33(J) — B4 A4 B5 A5
FSDATA[11] FSDATA[10] FSDATA[9] FSDATA[8] — RM701 [RMX4A] 33(J) — B7 A7 B8 A8
FSDATA[7] FSDATA[6] FSDATA[5] FSDATA[4] — RM702 [RMX4A] 33(J) — B9 A9 B10 A10
FSDATA[3] FSDATA[2] FSDATA[1] FSDATA[0] — RM703 [RMX4A] 33(J) — B12 A12 B13 A13
FSDATA[31] FSDATA[30] FSDATA[29] FSDATA[28] — RM704 [RMX4A] 33(J) — B15 A15 B16 A16
FSDATA[27] FSDATA[26] FSDATA[25] FSDATA[24] — RM705 [RMX4A] 33(J) — B18 A18 B19 A19
FSDATA[23] FSDATA[22] FSDATA[21] FSDATA[20] — RM706 [RMX4A] 33(J) — B20 A20 B21 A21
FSDATA[19] FSDATA[18] FSDATA[17] FSDATA[16] — RM737 [RMX4A] 33(J) — B23 A23 B24 A24

FSDATA0		FSBKSEL1	C20 — R736 — FSBKSEL[1]
FSDATA1		FSBKSEL0	C21 — R735 — FSBKSEL[0]
FSDATA2		FSCKE	C4 — R734 — FSCKE
FSDATA3		FSRAS	C24 — RM707 [RMX4A] 33(J) — /FSRAS
FSDATA4		FSCAS	D24 — RM707 — /FSCAS
FSDATA5		FSWE	C23 — RM707 — /FSWE
FSDATA6			
FSDATA7		FSDQM3	B22 — R740 — FSDQM[2]
FSDATA8		FSDQM2	B17 — R739 — FSDQM[3]
FSDATA9		FSDQM1	A11 — R738 — FSDQM[0]
FSDATA10		FSDQM0	A6 — R737 — FSDQM[1]
FSDATA11		FSDQS3	A22 — R744 — FSDQS[2]
FSDATA12		FSDQS2	A17 — R743 — FSDQS[3]
FSDATA13		FSDQS1	B11 — R742 — FSDQS[0]
FSDATA14		FSDQS0	B6 — R741 — FSDQS[1]
FSDATA15		FSCS1	C22 — R716 — /FSCS[1]
FSDATA16		FSCS0	D21 — R717 — /FSCS[0]
FSDATA17		FSCLKn	C5 — R719 — FSCLK-
FSDATA18		FSCLKp	D5 — FSCLK+
FSDATA19			
FSDATA20		FSADDR12	C11 — RM708 [RMX4A] 33(J) — FSADDR[11]
FSDATA21		FSADDR11	C14 — RM708 — FSADDR[4]
FSDATA22		FSADDR10	D16 — RM708 — FSADDR[9]
FSDATA23		FSADDR9	C12 — RM708 — FSADDR[12]
FSDATA24		FSADDR8	C6 — R707 33(J) — FSADDR[10]
FSDATA25		FSADDR7	C7 — RM709 [RMX4A] 33(J) — FSADDR[8]
FSDATA26		FSADDR6	C8 — RM709 — FSADDR[7]
FSDATA27		FSADDR5	C10 — RM709 — FSADDR[6]
FSDATA28		FSADDR4	C13 — RM709 — FSADDR[5]
FSDATA29		FSADDR3	C15 — RM710 [RMX4A] 33(J) — FSADDR[3]
FSDATA30		FSADDR2	C16 — RM710 — FSADDR[2]
FSDATA31		FSADDR1	C17 — RM710 — FSADDR[1]
		FSADDR0	C18 — RM710 — FSADDR[0]

27HL85
SIGNAL
DDR I/F

SH. NO.
702

/FSCAS. /FSCS[0]. /FSRAS. /FSWE. FSADDR[0-12]. FSBKSEL[0-1]. FSCKE. FSCLK+. FSCLK-. FSDQM[0-1]. FSDQS[0-1]

/FSCAS. /FSCS[0]. /FSRAS. /FSWE. FSADDR[0-12]. FSBKSEL[0-1]. FSCKE. FSCLK+. FSCLK-. FSDATA[0-15]. FSDQM[2-3]. FSDQS[2-3]

702:2A:704:3A

FSDATA[16-31]

HY5DU281622ETP-5 [MDSD8M16] IC701

HY5DU281622ETP-5 [MDSD8M16] IC702

FSADDR[0] 29 A0
FSADDR[1] 30 A1
FSADDR[2] 31 A2
FSADDR[3] 32 A3
FSADDR[4] 35 A4
FSADDR[5] 36 A5
FSADDR[6] 37 A6
FSADDR[7] 38 A7
FSADDR[8] 39 A8
FSADDR[9] 40 A9
FSADDR[10] 28 A10/AP
FSADDR[11] 41 A11

FSBKSEL[1] 27 BS1
FSBKSEL[0] 26 BS0
FSCLK- 46 CLK
FSCLK+ 45 CLK
FSCKE 44 CKE

R732 220(J) NOT MOUNT
R733 220(J) NOT MOUNT

/FSCS[0] 24 CS
/FSRAS 23 RAS
/FSCAS 22 CAS
/FSWE 21 WE

R720 33(J) FSDQM[0] 20 LDM
R721 33(J) FSDQM[1] 47 UDM
R722 33(J) FSDQS[0] 16 LDQS
R723 33(J) FSDQS[1] 51 UDQS

R724 33(J) FSDQM[2] 20 LDM
R725 33(J) FSDQM[3] 47 UDM
R726 33(J) FSDQS[2] 16 LDQS
R727 33(J) FSDQS[3] 51 UDQS

14 NC
17 NC
19 NC
25 NC
FSADDR[12] 42 NC
43 NC
50 NC
53 NC

DQ0 DQ1 DQ2 DQ3 DQ4 DQ5 DQ6 DQ7 DQ8 DQ9 DQ10 DQ11 DQ12 DQ13 DQ14 DQ15

[RMX4A] RM711 33(J): FSDATA[0] FSDATA[1] FSDATA[2] FSDATA[3]
[RMX4A] RM712 33(J): FSDATA[4] FSDATA[5] FSDATA[6] FSDATA[7]
[RMX4A] RM713 33(J): FSDATA[8] FSDATA[9] FSDATA[10] FSDATA[11]
[RMX4A] RM714 33(J): FSDATA[12] FSDATA[13] FSDATA[14] FSDATA[15]
[RMX4A] RM715 33(J): FSDATA[16] FSDATA[17] FSDATA[18] FSDATA[19]
[RMX4A] RM716 33(J): FSDATA[20] FSDATA[21] FSDATA[22] FSDATA[23]
[RMX4A] RM717 33(J): FSDATA[24] FSDATA[25] FSDATA[26] FSDATA[27]
[RMX4A] RM718 33(J): FSDATA[28] FSDATA[29] FSDATA[30] FSDATA[31]

+2.5V_DDR
FSVREF

C774 100nF(K)
C775 100nF(K)
C776 100nF(K)
C777 100nF(K)
C778 100nF(K)
C779 100nF(K)
C780 100nF(K)
C781 100nF(K)
C782 100nF(K)
C783 100nF(K)
C784 100nF(K)
C785 100nF(K)
C786 100nF(K)
C787 100nF(K)

[VDDQ] [VSSQ] [VDD] [VSS] [VREF]

GND

27HL85
SIGNAL
DDR SDRAM

SH. NO. 703

/FSCAS. /FSCS[0-1]. /FSRAS. /FSWE. FSADDR[0-12]. FSBKSEL[0-1]. FSCKE. FSCLK+. FSCLK-. FSDATA[0-31]. FSDQM[0-3]. FSDQS[0-3]

[RMX4A] RM719: FSDATA[31] FSDATA[30] FSDATA[29] FSDATA[28]
[RMX4A] RM720: FSDATA[27] FSDATA[26] FSDATA[25] FSDATA[24]
[RMX4A] RM721: FSDATA[23] FSDATA[22] FSDATA[21] FSDATA[20]
[RMX4A] RM723: FSDATA[19] FSDATA[18] FSDATA[17] FSDATA[16]
[RMX4A] RM725: FSDATA[15] FSDATA[14] FSDATA[13] FSDATA[12]
[RMX4A] RM727: FSDATA[11] FSDATA[10] FSDATA[9] FSDATA[8]
[RMX4A] RM729: FSDATA[7] FSDATA[6] FSDATA[5] FSDATA[4]
[RMX4A] RM730: FSDATA[3] FSDATA[2] FSDATA[1] FSDATA[0]
R731 150(J): FSADDR[10]
[RMX4A] RM731: FSADDR[11] FSADDR[4] FSADDR[9] FSADDR[12]
[RMX4A] RM732: FSADDR[5] FSADDR[6] FSADDR[7] FSADDR[8]
[RMX4A] RM733: FSADDR[0] FSADDR[1] FSADDR[2] FSADDR[3]
All 150(J)

C791 100nF(K)
C792 100nF(K)
C793 100nF(K)
C795 100nF(K)
C797 100nF(K)
C799 100nF(K)
C7001 100nF(K)
C7003 100nF(K)
C7004 100nF(K)
C7005 100nF(K)
C7006 100nF(K)

GND

+2.5V_DDR

R9220 10K(F) MOUNT

REG. [L2995]
IC703 LP2995MX
VDDQ
VREF
VSENSE
NC
VTT
[AVIN]
[PVIN]
[GND]

FSVREF

W9116

C773 22uF(K) 4V MOUNT

C788 1uF(K) 10V

C789 220uF(M) [CP] 16V

C790 10nF(K)

R9221 10K(F) MOUNT

GND

FSBAS FSCAS FSWE
[RMX4A] RM722: FSBAS FSCAS FSWE
FSCS[1] FSCS[0] FSBKSEL[0] FSBKSEL[1]
[RMX4A] RM724: FSCS[1] FSCS[0] FSBKSEL[0] FSBKSEL[1]
FSDQS[1] FSDQM[1] FSDQM[0] FSDQS[0]
[RMX4A] RM726: FSDQS[1] FSDQM[1] FSDQM[0] FSDQS[0]
FSDQS[3] FSDQM[3] FSDQM[2] FSDQS[2]
[RMX4A] RM728: FSDQS[3] FSDQM[3] FSDQM[2] FSDQS[2]
All 150(J)

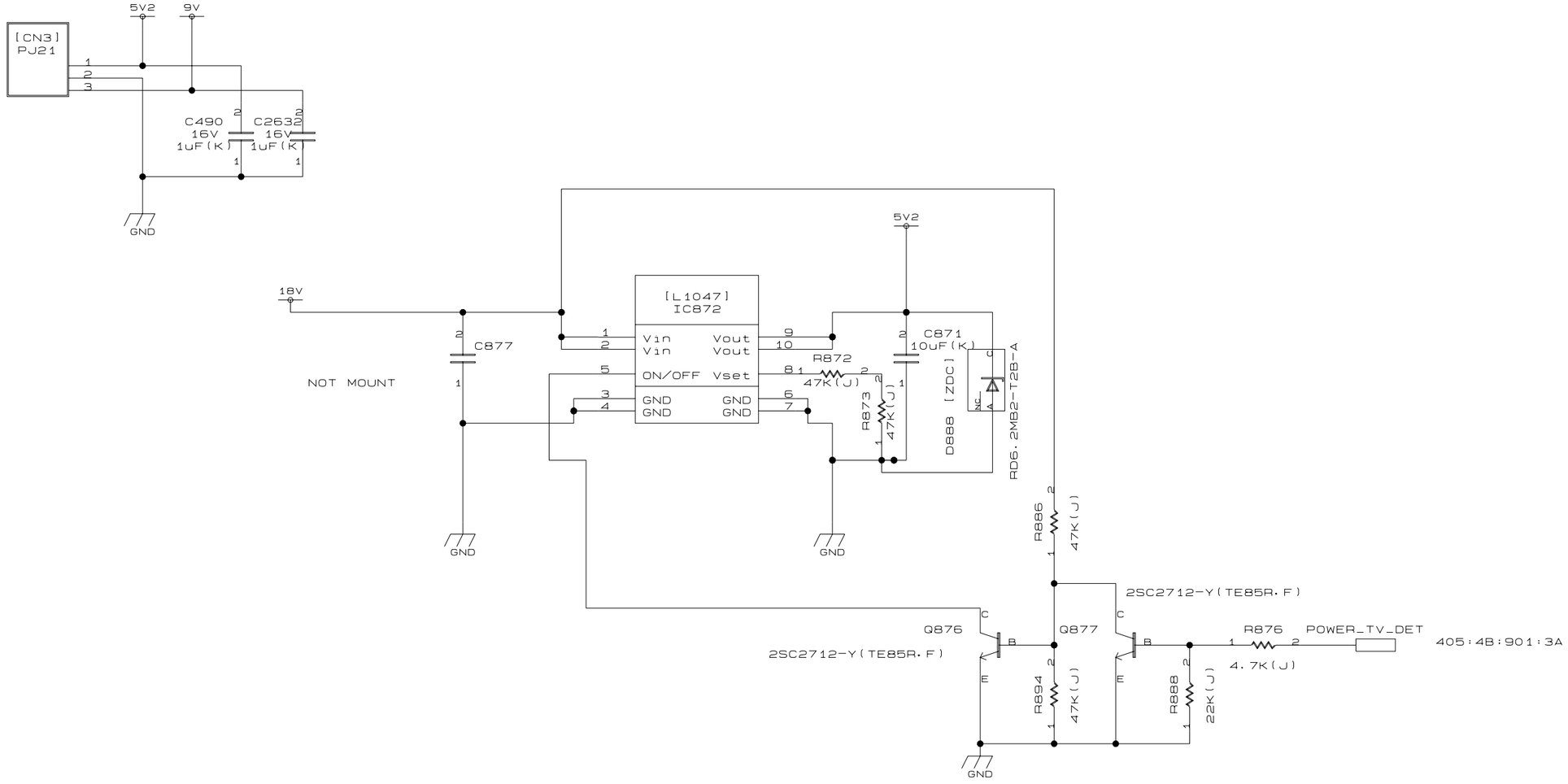
R728 150(J): FSCLK-
R729 150(J): FSCLK+
R730 150(J): FSCKE

C794 100nF(K)
C796 100nF(K)
C798 100nF(K)
C7000 100nF(K)
C7002 100nF(K)

GND

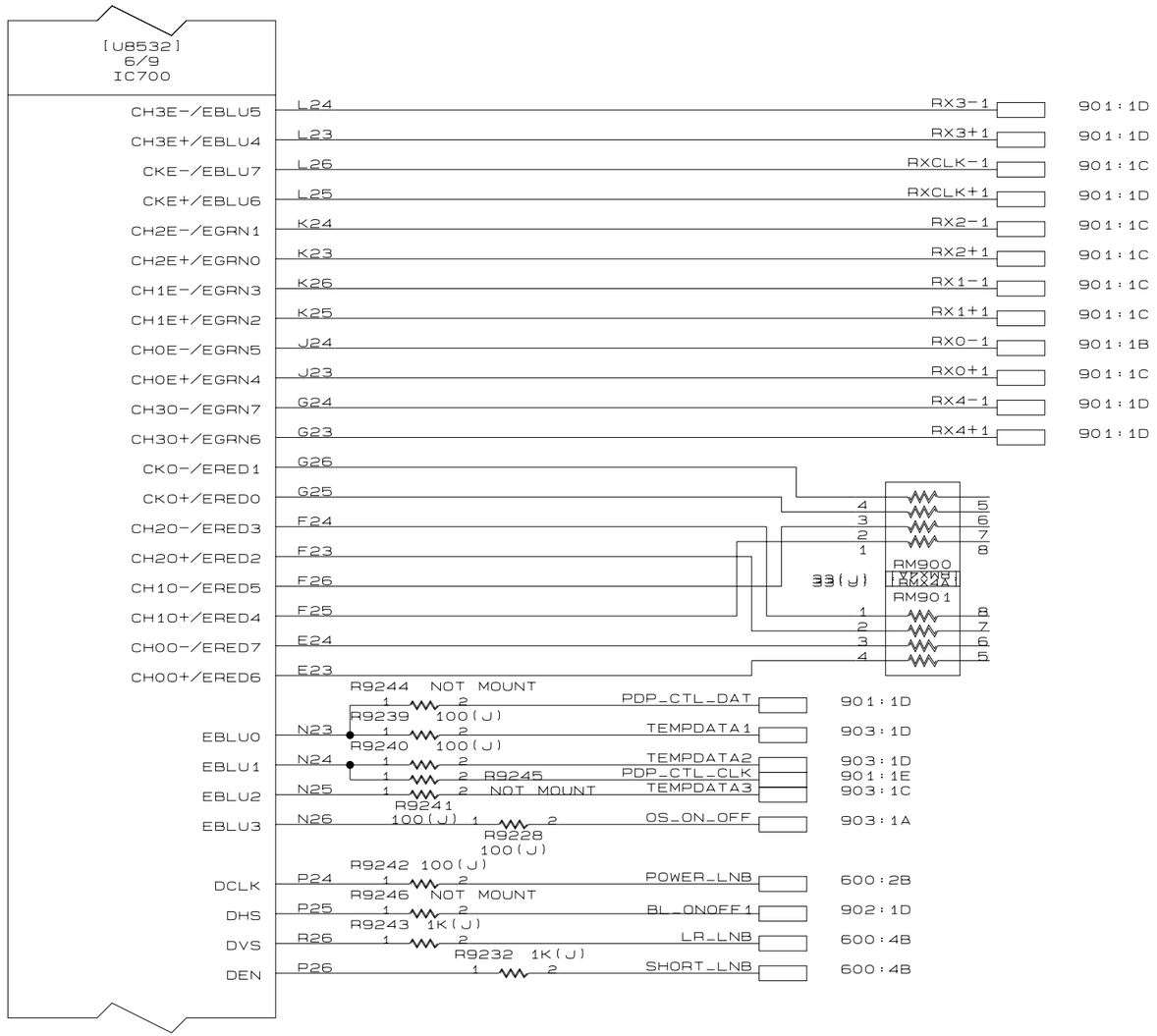
27HL85
SIGNAL
DDR TERMINATION

SH. NO. 704



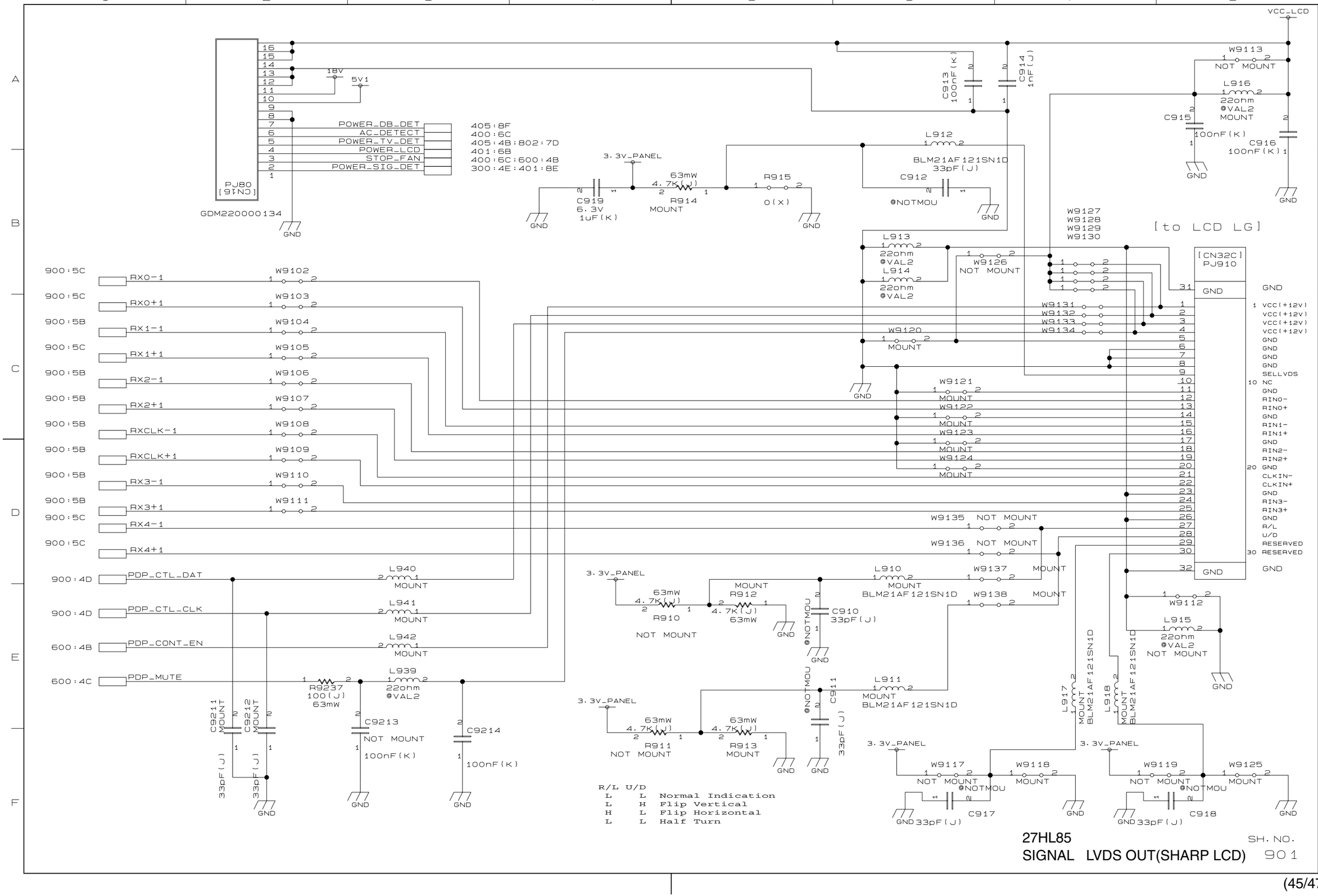
27HL85
SIGNAL
DCDC CONV.

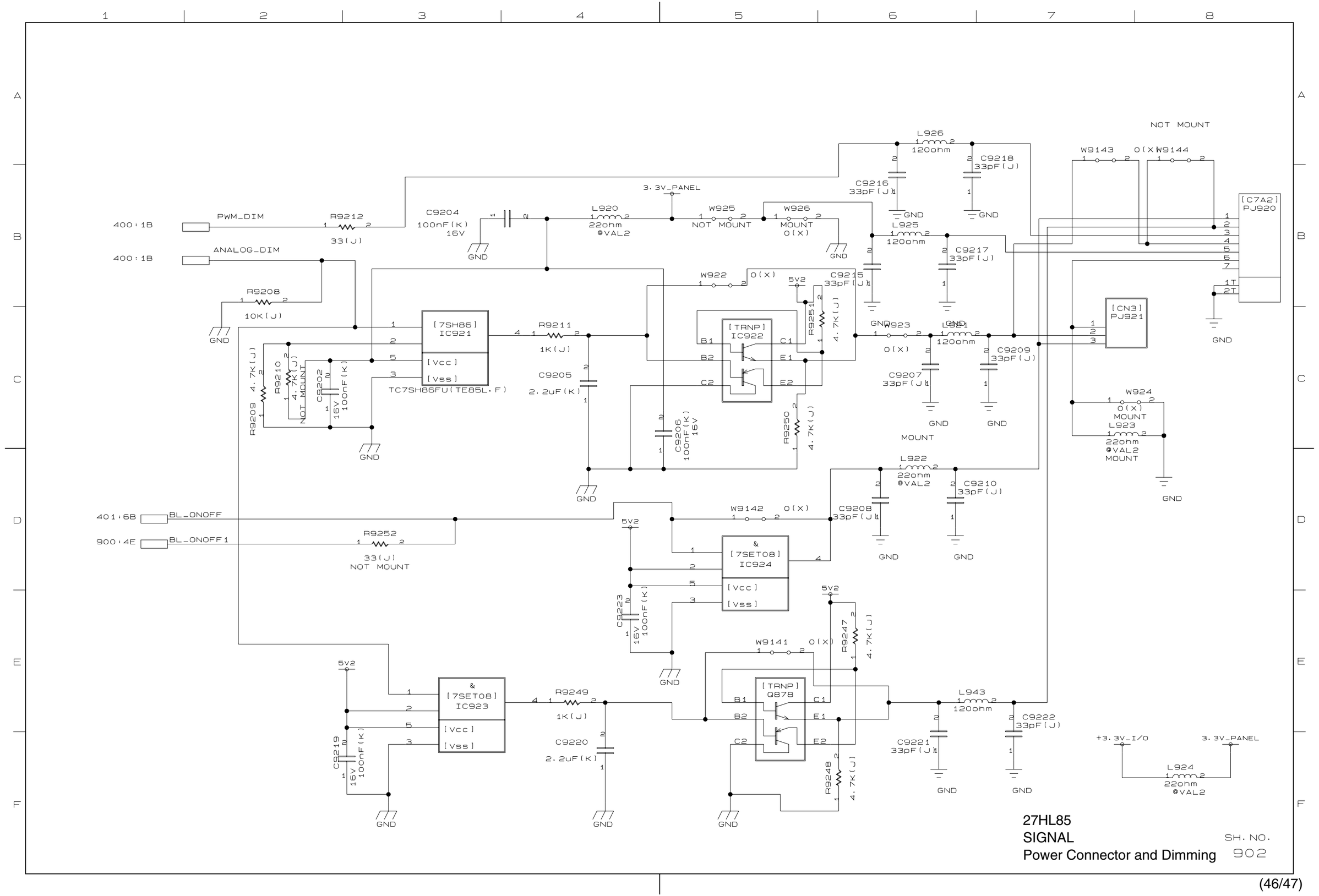
SH. NO.
802

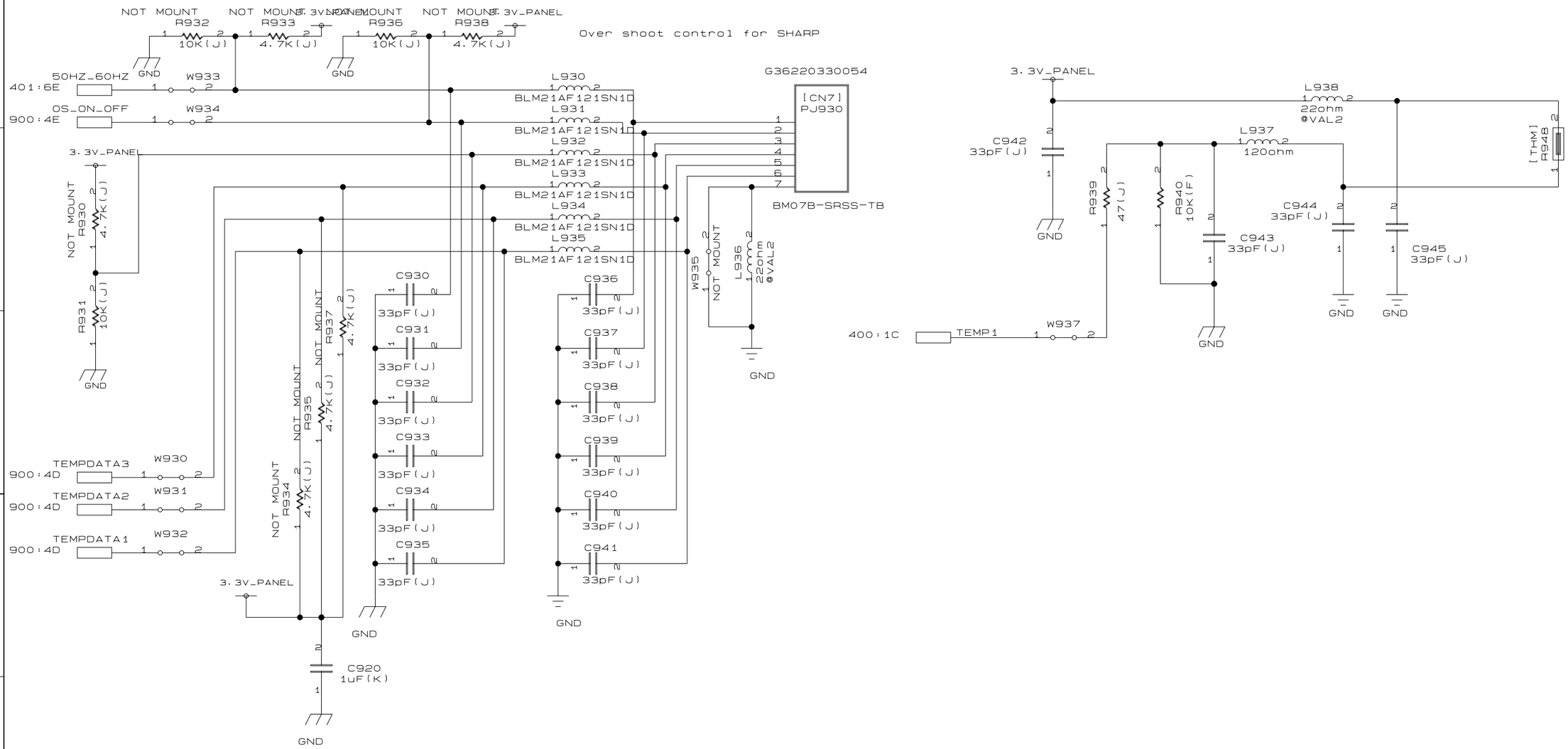


27HL85
SIGNAL
LVDS OUT

SH. NO.
900


PJ80
[CN16]
GDM2200000134
POWER_DB_DET
AC_DETECT
POWER_TV_DET
POWER_LCD
STOP_FAN
POWER_SIG_DET
18V
5V1
405:8F
400:6C
405:4B:802:7D
401:6B
400:6C:600:4B
300:4E:401:8E
3.3V_PANEL
C919 6.3V 1uF(K)
63mW 4.7K(J) R914 MOUNT
R915 0(X)
L912 BLM21AF121SN1D
C912 @NOTMOU
C913 100nF(K)
C914 1nF(J)
W9113 NOT MOUNT
L916 22ohm @VAL2 MOUNT
C915 100nF(K)
C916 100nF(K)
VCC_LCD
[to LCD LG]
W9127
W9128
W9129
W9130
[CN32C]
PJ910
L913 22ohm @VAL2
L914 22ohm @VAL2
W9126 NOT MOUNT
W9131
W9132
W9133
W9134
W9120 MOUNT
W9121 MOUNT
W9122 MOUNT
W9123 MOUNT
W9124 MOUNT
W9135 NOT MOUNT
W9136 NOT MOUNT
W9137 MOUNT
W9138 MOUNT
W9112
L915 22ohm @VAL2 NOT MOUNT
L917 BLM21AF121SN1D MOUNT
L918 BLM21AF121SN1D MOUNT
900:5C RX0-1 W9102
900:5C RX0+1 W9103
900:5B RX1-1 W9104
900:5C RX1+1 W9105
900:5B RX2-1 W9106
900:5B RX2+1 W9107
900:5B RXCLK-1 W9108
900:5B RXCLK+1 W9109
900:5B RX3-1 W9110
900:5C RX3+1 W9111
RX4-1
RX4+1
900:4D PDP_CTL_DAT L940 MOUNT
900:4D PDP_CTL_CLK L941 MOUNT
600:4B PDP_CONT_EN L942 MOUNT
600:4C PDP_MUTE
R9237 100(J) 63mW
L939 22ohm @VAL2
C9211 MOUNT 33pF(J)
C9212 MOUNT 33pF(J)
C9213 NOT MOUNT 100nF(K)
C9214 100nF(K)
3.3V_PANEL
63mW 4.7K(J) R910 NOT MOUNT
MOUNT R912 4.7K(J) 63mW
C910 @NOTMOU 33pF(J)
L910 MOUNT BLM21AF121SN1D
L911 MOUNT BLM21AF121SN1D
C911 @NOTMOU 33pF(J)
63mW 4.7K(J) R911 NOT MOUNT
63mW 4.7K(J) R913 MOUNT
W9117 NOT MOUNT
W9118 MOUNT
C917 @NOTMOU 33pF(J)
W9119 NOT MOUNT
W9125 MOUNT
C918 @NOTMOU 33pF(J)
GND
R/L U/D
L L Normal Indication
L H Flip Vertical
H L Flip Horizontal
L L Half Turn
27HL85
SIGNAL LVDS OUT(SHARP LCD)
SH. NO.
901


NOT MOUNT
400:1B
PWM_DIM
R9212
33(J)
C9204
100nF(K)
16V
L920
22ohm
@VAL2
3.3V_PANEL
W925
NOT MOUNT
W926
MOUNT
O(X)
L926
120ohm
C9216
33pF(J)
C9218
33pF(J)
W9143
W9144
[C7A2]
PJ920
L925
120ohm
C9217
33pF(J)
400:1B
ANALOG_DIM
R9208
10K(J)
W922
O(X)
5V2
C9215
33pF(J)
[7SH86]
IC921
[Vcc]
[Vss]
TC7SH86FU(TE85L,F)
R9211
1K(J)
C9205
2.2uF(K)
[TRNP]
IC922
R9251
4.7K(J)
W923
O(X)
L921
120ohm
C9209
33pF(J)
[CN3]
PJ921
R9209 4.7K(J)
R9210
4.7K(J)
NOT MOUNT
C9202
16V 100nF(K)
C9206
100nF(K)
16V
R9250
4.7K(J)
C9207
33pF(J)
W924
O(X)
MOUNT
L923
22ohm
@VAL2
MOUNT
L922
220ohm
@VAL2
C9210
33pF(J)
401:6B
BL_ONOFF
900:4E
BL_ONOFF1
R9252
33(J)
NOT MOUNT
W9142
O(X)
C9208
33pF(J)
&
[7SET08]
IC924
[Vcc]
[Vss]
C9223
16V 100nF(K)
W9141
O(X)
R9247
4.7K(J)
[7SET08]
IC923
R9249
1K(J)
C9220
2.2uF(K)
C9219
16V 100nF(K)
[TRNP]
Q878
R9248
4.7K(J)
L943
120ohm
C9221
33pF(J)
C9222
33pF(J)
+3.3V_I/O
3.3V_PANEL
L924
22ohm
@VAL2
GND
27HL85
SIGNAL
Power Connector and Dimming
SH. NO.
902



27HL85
SIGNAL
LVDS Power and Others

SH. NO.
903